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**TECHNICAL EDITOR:**

K. E. PINCOTT, VK3AFJ.

**NOTES EDITOR:**

V. M. JONES, VK3YE.

**TECHNICAL STAFF:**

J. C. DUNCAN, VK3VZ.

D. A. NORMAN, VK3UC.

R. S. FISHER, VK3OM.

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## EDITORIAL



## RETROSPECT

The sudden advent of Sputniks I. and II. has thrown the world into a dither. Organisations especially formed to track the U.S. satellite were literally caught napping, and once again the Amateur fraternity were alerted to breach the gap. This they did expertly and with the usual celerity. The Federal station VK3WIA was quickly in operation accepting reports from widely separated parts of Australia and the islands and collecting the data on signal reports and details of tracking by directional antennae.

The earlier reluctance of official organisations to enlist the aid of the Australian Amateur for the I.G.Y. activities was quickly dispelled in view of their own unpreparedness. The Amateur did his job and did it unselfishly—how well will only be known after the sorting, sifting and correlation of the reports have been made. Events such as these were of great public moment and the Amateur in turn was not without his rightful share in the ensuing publicity.

In retrospect, however, there are questions we should searchingly ask of ourselves. Are we fully exploring and exploiting our erstwhile heritage as experimenters? Are we keeping abreast of new technological and electronic developments? Are

we doing our part fully in promoting goodwill and friendship internationally? Are we completely employing our ability and usefulness to public service in the community as we could? Is the Amateur's Code our guiding light in our approach to daily life?

Only our conscience will allow us to answer these questions without evasion. Introspection is very appropriate to the approaching Christmas season so see that the results of your soul-searching are for your own peace of mind and the good of Amateur Radio generally.

Take more interest in the activities of your local Division, find out how the Institute as a whole is run and organised if you do not know; commit your experiments and circuitry to paper for publication in your own magazine; contact your overseas contemporaries and pass more than the time of the day with him to gain his friendship, and lastly operate by the Amateur's Code. In these various ways you will put back something into Amateur Radio as well as gaining something from its acquaintance.

The Federal Executive, on behalf of the Federal Council of the Institute, wish ALL members the Season's Greetings and a Prosperous and Fruitful NEW YEAR.

FEDERAL EXECUTIVE.

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# How's Your Receiver?

BY N. BURTON,\* BERS11494

IT is somewhat of a chastening experience to listen round the Amateur bands and note the apparent number of what might be termed sub-standard receivers that are in use. It is not uncommon to hear a description of the station equipment which includes a well known receiver and then hear the rider, "but this — receiver needs doing up."

This state of affairs is hardly a good advertisement for the Radio Amateur and as the same state of things has been noted visiting shacks, one is tempted to wonder is the average Amateur frightened to touch a commercially built receiver? It is something none of us need be afraid of; if you can build and maintain a modern transmitter, then you can overhaul your receiver.

Taking everything into account it stands to reason that many of the receivers in use today could, with benefit, stand an overhaul. Many of them are of surplus origin and even assuming it was a new one in 1945 it is now 12 years old. Some of the more popular ones are even older and if you have one very popular receiver it can be 22 years old! Time indeed for overhaul!

It is as well to start by removing the receiver from the cabinet. This can be a job (the writer's own receiver needs 32 screws and bolts removed to do this). Once free of the cabinet, there is room to work. Remove all the valves first and then find every earthing tag. Many of these will be nut and bolt with star washer efforts. Remove each individual bolt and clean the parts that are to contact; it will often be found there is rust and/or enamel beneath the bolt fixings. Once this is done check the replaced tags with a megger if possible. A few ohms here and there can make a lot of difference to a receiver's performance.

Having done this, now turn to the fixed condensers. Many of these will be of the paper variety and probably leaky. Starting at the r.f. valve remove and replace each by-pass and coupling condenser up to the diode or whatever circuit is used as second detector. It will be found possible in many cases to substitute modern small mica condensers in place of the original paper ones with advantage. Make sure the condensers have an adequate working voltage figure and do not, under any circumstances use "surplus" condensers. These can be anything up to 18 years old. The actual substitution will involve only clipping one out and soldering in another, in most cases without disturbing any other component. In the case of condensers located beneath a coil pack, certain manufacturers have the happy knack of so arranging the r.f. end of the receiver—not only will the coils have to be carefully removed and replaced, but the various leads to the coils will have to be "dressed" into the right positions. If you feel your skill is not up to this work enlist the

aid of someone whose skill is, as these condensers in the r.f. end affect the receiver performance so much.

Once the condensers have been attended to as far as the second detector, those in the audio end can be tested. If they are alright they may be left in as their effect is far less on the overall performance than the replaced condensers.

Resistors can now be checked for value and any more than 20% out in value replaced with new ones of like wattage. Few of the older receivers used any other tolerance value of resistor than 20%.

Having done this, the time is ripe to consider if any improvements can be made to the receiver. A more modern noise limiter for instance, noise limiter circuits have improved a lot in 20 years. Here the thoughts turn naturally to more efficient modern valves to replace the originals. It should be pointed out that no hard and fast rule can be laid down. It is quite easy in many cases to put in new high gain valves and get amazingly improved "S" meter readings but the signal-to-noise ratio is not of necessity improved—it may even be worse. The thing to aim at is better signal-to-noise ratio, and this is, as a rule, far easier to achieve than high gain and good signal-to-noise ratio.

The problem of valve substitution, and it is a problem, is closely linked with the actual coils in the receiver. If these are of the old high efficiency type put in to overcome the deficiencies of the then available valves, trouble will almost certainly be encountered with self oscillation of the stage. It has been authoritatively stated that to hook up an EF50 to one of the high gain coils of the late 20's or early 30's, copper screening an eighth of an inch thick would be needed for a start; this is hardly a practical proposition.

In the case of receivers using valves of the GK7 class an improvement is made by substituting valves like the EF39. If you can obtain some of the Osram (English) octal-based valves even better results may be obtained. These Marconi/Osram international octal-based valves have in many cases no exact counterpart in the American range and the English valves have rather better characteristics.

If you are using a surplus receiver of English origin make an effort to obtain the recommended English valves. This may seem a small point, but it is a fact that one popular English surplus receiver can be re-valved entirely with American valves and will perform well, however when the recommended English valves are installed the performance is far superior in every way.

These are the maximum alterations that seem logically possible as regards the valves, and increased gain. It is as well to bear in mind that the designer knew what he was doing and designed the coils and valves to work as a team and aimed at, and got, a certain gain

from that stage. The substitution of high gain valves ad lib is not recommended; it has been the author's privilege to handle some r.c.s. that "hotted up" and the curing of the instability after the modifications resulted in a performance that was little better, if any, than the original set—in some cases it was worse.

Do not confuse big "S" meter readings and a lot of noise for sensitivity to weak signals. It is quite easy to arrange to deliver several watts of noise from the output. If any modifications to the valve line-up outside the simple substitution of valves with a lower noise figure and slightly better slope are contemplated, this should at the most be limited to the r.f. valve in the first stage. This is usually a pentode and the substitution of a twin triode cathode coupled will preserve the high input impedance and at the same time improve the noise factor of the stage. An efficient valve to use thus is the ubiquitous 12AT7. Such a modification will not increase the "S" meter reading.

In the event of the feeling persisting that the r.f. gain is not enough the installation of a good two stage pre-selector should be given serious thought. Two stages are recommended as one is apt to be disappointing. Two stages allows the use of three tuned circuits (one valve is thus t.p.t.g.) with consequent beneficial effect on the front end selectivity. Such a device is carefully constructed and designed with a low noise figure in mind will add measurably to the performance of any receiver. Apart from the improvement in front end selectivity, the a.g.c. and noise limiter circuits work far more efficiently and on the higher frequency bands signals can be brought in without having the i.f. gain wide open. This is far easier on the ears. The installation of such a device hardly adds to complication of receiver operation as on the Amateur bands only a lazy rocking of the dial is needed. It is hardly ever necessary to look at the preselector as it can be heard working. The author has used such an arrangement for many years with highly satisfactory results. Four r.f. stages are well worth while.

The mixer stage in many cases can be improved. The original mixer may be a triode pentode of early design and it is often possible to substitute a more modern valve having similar operating conditions but better conversion conductance. This results in lower noise and as much noise originates in the mixer, this point should definitely be given attention. In the case of a conversion circuit using a separate oscillator replacement of the actual mixer tube with a more efficient counterpart should be given thought, especially if one is available as in the present case, with like operating conditions.

As regards the actual oscillator valve itself, this will in many cases stand quite a bit of work on the circuit as the conditions pertaining then do not apply today—i.v.f. is in mind.

\*130 The River Road, Revesby, N.S.W.



Many communication receivers are excellent producers of t.v.i., as mentioned in a previous article one well known receiver will produce t.v.i. at 75 yards. It is as well to measure the grid current of the actual oscillator valve and if this is excessive, steps must be taken to reduce this. This may seem on the face of it rather unnecessary but there are cases on record where the drive available from the oscillator was quite sufficient to have driven an 807, allowing the owner to have had easy operation on the broadcast band! The drive should be reduced to that recommended for optimum injection of the heterodyne voltage. It is advantageous at this stage to check the receiver for t.v.i. If under these conditions t.v.i. is caused, then a trap must be fitted in the cathode circuit of the oscillator valve. This should clear up the oscillator stage, except for voltage stabilising it, if this has not been done.

Continuing possible improvements, if there is room on the deck the installation of a separate circuit for supplying the a.g.c. voltage to the r.f. stages alone is worthwhile. Such a circuit needs room for an extra i.f. transformer and a diode pentode valve, and repays the installation by improving the response to weak signals, as regards audible tuning.

In the event of the receiver not possessing a crystal filter and it is felt the selectivity can be better, then the installation of a pair of miniature i.f. transformers back to back in place of one of the originals merits thought. There is usually ample room as the older i.f. coils were of large physical size and two of the modern coils will fit in the space of one of the older kind. Another way out of this selectivity problem is to replace one i.f. with a Q multiplier, this means an additional panel control too.

This just about brings up the stage of re-aligning the receiver. The receiver should be returned to the cabinet and the base plate, etc., fitted into position. Most receivers are meant to be aligned in the cabinet and holes are provided for this purpose in the base plate.

For the actual alignment, follow the manual instructions or if the manual is missing and the receiver has an "S" meter and crystal the method recommended by R.M.E. of Peoria, Ill., may be used. Better, if the receiver is the Tune the receiver to a local station as near to the i.f. of the receiver as possible, replacing the aerial with a length of wire long enough to give half scale deflection on the meter. Allow an hour for warming up. Now switch in the filter and tune the station in with the filter in the narrowest position. Rock the i.f. trimmers about until no more deflection can be obtained on the "S" meter. The i.f. is now lined up.

For the r.f. end a 500 or 1,000 Kc. oscillator is more useful than a signal generator. Do not be afraid to spend

one or two nights getting the receiver "spot on" over the entire range. It is pleasing to have an accurately calibrated receiver. The trimmers and padders should be adjusted as per manual and the "S" meter is a valuable indicating device. In the case of padders encountered bearing the legend "do not touch" adhere strictly to this injunction as these are factory adjusted padders and once set do not need any more attention—this point was driven home vividly to the author on one occasion as rectifying the damage as it were by the owner, due to the movement of one such trimmer, meant several nights of most irritating and boring work to put the matter right.

For the receiver without crystal filter the i.f. can be dealt with by means of a borrowed signal generator, the more accurate the better but it does not matter if the i.f. is a Kc. or so off so long as they are all aligned to the same i.f. the r.f. end trimmers usually are of sufficient tolerance to allow accurate alignment of the front end to correspond with dials.

A word about switches and cleaning may not be amiss. The author spent most of his life in a part of the world where the local atmosphere consists largely of sulphur dioxide which, when moist, makes sulphuric acid, albeit dilute. The effect on switches and contacts can be imagined. In time a black skin of sulphur compounds would coat the metal with the usual results of bad contacts. The switches would often not respond to treatment with carbon tetrachloride but it was found by experience that a thin coating of sewing machine oil would soften the deposit and allow the contacts to cut through it. This oiling is against most textbook teaching, but it was effective. Many Yaxley type switches are lubricated when installed with a soft grease and this whilst not affecting the electrical efficiency does eliminate wear between the metal surfaces, hence treatment with carbon tetrachloride removes this protective film and wear on the switches is increased. If switches are cleaned then the gentle oiling should follow afterwards and let it be gentle! If the contacts are accessible to the finger smear them with a drop of oil on the tip of the finger. Only a film is needed. It is hoped these notes will be of assistance to those hesitant about tackling a commercially built receiver. There is no need to be afraid providing you are willing to be patient and careful. The job may be a little tedious, but it is not impossible.

In conclusion, how long is it since you checked your receiver? Even if performing well and it is over 12 months since it was touched, the effort of checking the alignment and re-trimming the r.f. end will not be wasted, and don't forget the old Amateur chestnut—"If you can't hear them, you can't work them!"

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## VALVE DATA

### 12BH7

#### MEDIUM-MU TWIN TRIODE

The Radiotron 12BH7 is a medium-mu twin triode of the 9-pin miniature type used in the vertical deflection circuits of television receivers. In such circuits, one unit of the 12BH7 may be used as the vertical deflection amplifier and the other as the vertical oscillator. This valve is adequate for picture tubes with up to 90° deflection angle, when operated from the boost supply voltage.

The 12BH7 features two similar triode units in one envelope, separate base-pin terminals for each cathode and a centre-tapped heater to permit operation from either a 6.3 volt or 12.6 volt supply.

The valve may be used in other applications including phase-inverter and multivibrator circuits.

#### Electrical Data

	Series Parallel	
Heater voltage .....	12.6	6.3 volts
Heater current .....	0.3	0.6 amp.

#### CLASS A1 AMPLIFIER (Each Unit)

Maximum Ratings:	
Plate voltage .....	300* volts
Grid voltage:	
Negative bias value ....	50* volts
Positive bias value ....	0* volts
Cathode current .....	20* Ma.
Plate dissipation .....	3.5* watts
Peak heater - cathode voltage:	
Heater negative with respect to cathode .....	200* volts
Heater positive with respect to cathode .....	200† volts

Characteristics:	
Plate voltage .....	250 volts
Grid voltage .....	-10.5 volts
Amplification factor .....	16.5
Plate resist. (approx.) .....	5300 ohms
Transconductance .....	3100 $\mu$ mhos
Plate current .....	11.5 Ma.
Grid voltage (approx.) for plate current of 10 $\mu$ A .....	—23 volts

#### VERTICAL DEFLECTION AMPLIFIER

Maximum Ratings (Each Unit):	
D.c. plate voltage .....	450* volts
Peak positive-pulse plate voltage† (absolute maximum) .....	1500* volts
Peak negative-pulse grid voltage .....	1250* volts
4000*¶ volts	

Cathode current:	
Peak .....	70* Ma.
Average .....	20* Ma.
Plate dissipation:	
For either plate .....	3.5* watts
For both plates with both units operating .....	7.0* watts
Peak heater - cathode voltage:	
Peak negative with respect to cathode .....	200* volts
Peak positive with respect to cathode .....	200† volts

Maximum Circuit Value:	
Grid-circuit resistance:	
For cathode-bias, 2.2* megohms.	

\* Maximum.  
† The duration of the voltage pulse must not exceed 15 per cent. of one vertical scanning cycle. In a 625-line, 25-frame system, 15 per cent. of one vertical scanning cycle is 3 milliseconds.  
‡ Under no circumstances should this absolute value be exceeded.  
§ As vertical deflection oscillator.

#### R.D. TEST RESULTS

Owing to last minute delays in checking it is regretted that the results of the R.D. Contest were not available for this issue. They will appear in January.

[illegible]

## Amateur Radio, December, 1957

# Harmonics and Selectivity of Transmitters

## PART ONE

BY HANS RUCKERT,\* VK2AOU

WE are used to talking about selectivity as one of the main features of receivers because the ideal receiver would allow only one signal to be detected. Now the shortage of frequencies and the advent of television makes it just as important to introduce selectivity requirements for transmitters, to ensure that only one frequency or one narrow band of frequencies is radiated by a particular transmitter. The receiver lacking in selectivity only means QRM at the receiving location. It may be more serious with a transmitter radiating on many frequencies, for most of these will be outside Amateur bands where the operator has no licence to transmit. Just listen to those Hams in your neighborhood who call "CQ 40" on 20 and 15 metres as well as on 10 metres and even shorter wavelengths. If you have a v.h.f. receiver you will hear some of them as high as 2 metres and even further up the spectrum. The higher your fundamental frequency is, the stronger will be your harmonics. You will hear signals from v.f.o.'s and frequency multipliers on lower bands—these signals are not sub-harmonics. These days we don't use the regenerative t.r.f. receiver with 1-3 valves and the Hartley m.o. has also disappeared, but it seems that there have been far more improvements in receiver selectivity than in transmitters.

After describing rather complicated complete receivers and transmitters in "A.R." which included most of the modern means of obtaining the desirable selectivity, it may be interesting to study the fundamentals by discussing some simple measurements which have been carried out with ordinary Amateur gear. If some readers get confused looking at a complete circuit, which is nothing more than an accumulation of many similar components and even nearly identical stages, they should have no trouble in understanding just what a single capacitor and one simple coil is doing.

In the description of the following examples we don't claim to cover the subject completely, nor can we expect a high order of accuracy from the measuring results obtained with simple gear, but the principles are always the same and interesting enough. This article was not written for those radio operators who do not wish to learn what is going on behind the dials and panels of the receiver and transmitter, but it should help us as Radio Amateurs to understand our electronic equipment.

### WHERE DO HARMONICS COME FROM?

Harmonics start with the oscillator and each further stage, which does not work as a linear amplifier, contributes to the harmonic content of the output signal.

Test: We used the Amateur band receiver (described in April '56 issue of

"A.R.") which has a calibrated S meter. A short aerial was connected. Various oscillators were placed at such a distance from the receiver that the 3.5 Mc. signal from the oscillators gave a reading of S9 plus 50 db. (30 mvols). A BC221 frequency meter had a three ft. long antenna, the grid-dip meter used the unshielded coil, and a further e.c.o. frequency meter had a four ft. long test antenna. The signal strength of the harmonics is listed below:

Mc.	BC221	G.D.O.	E.C.O.
1.75	(fundamental)		
3.5	S9+50 db.	S9+50 db.	S9+50 db.
7	S9+50 db.	S9+10 db.	S9
14	S7	S6	S6
21	S9	S7	S4
28	S9	S5	S2

One S unit is a step of 6 db. or a voltage ratio of 1:2.

Compared with the fundamental frequency, the—

2nd harmonic is down	20-50 db.
4th " " "	50-60 db.
6th " " "	(about 1:1,000)
8th " " "	50-60 db.
8th " " "	50-65 db.

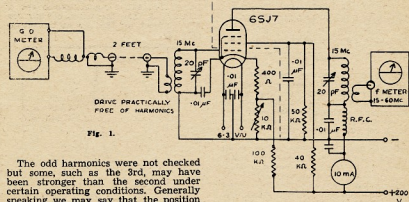


Fig. 1.

The odd harmonics were not checked but some, such as the 3rd, may have been stronger than the second under certain operating conditions. Generally speaking we may say that the position does not seem to be too bad because an antenna coupler and a low-pass filter should provide enough selectivity if the stages following the oscillator do not make things worse. The Clapp or Colpitts oscillators may have less harmonics because the large capacitors could reduce the higher order harmonics to some degree, but a lot depends on the operating conditions of the valve.

### HARMONICS FROM THE CLASS C STAGE

L. Retinartz gives some typical figures which are interesting as most of our transmitter stages are operated class C. These figures assume that the class C stage is driven by a harmonic-free signal and that the tuned circuit is replaced by a pure resistor or by a choke which has no resonances or holes over the tested frequency range, so that all harmonics have the same chance.

The harmonics generated by the class C stage alone (non-linear operation, 140° current flow angle) are as follows:—

Fundamental and Harmonics	R.F. Current %	db. Power Level
1st	100	4.0
2nd	69.4	—3.2
3rd	30.8	—10.3
4th	5.6	—25.8

Remember that each 10 db. power level change is equal to a power ratio of 1:10.

The amount of harmonic energy generated in a class C stage is quite substantial. The situation will be far worse if the driver stage following the v.f.o. feeds a signal into the p.a. which already contains strong harmonics. It is absolutely clear that one pi-tank in the plate circuit of the class C p.a. stage has no chance whatsoever of giving us a t.v.i.-proof transmitter or of reducing all harmonics to a level which can be tolerated.

### HARMONICS WITH DIFFERENT OPERATING CONDITIONS

When we build our Amateur transmitters we intend to use class C operation in the frequency multiplier, driver

and p.a. stages. This means that the negative grid bias applied is at least twice the voltage required for class B operation (twice cut-off bias). The stages will then work with the highest efficiency. For frequency multiplication we need even more bias to get strong harmonics. Let us now see what our frequency multiplier and p.a. stages are generating when we vary the bias and operating conditions.

It is also interesting to see what effect the tuning of the tank circuit has, as many v.f.o.'s have an output circuit tuned by valve and stray capacities instead of a correctly tuned condenser.

**The Test Set-up:** As shown in Fig. 1, a grid-dip meter served as the r.f. generator, which did not have strong harmonics. The two link coils, with two feet of co-ax and the tuned grid circuit reduced the harmonics to a negligible value. This means that any harmonics detected at the plate of the 65J7 plate tank had been generated or formed by this stage alone. The grid and plate circuits were well separated



and no regeneration was present. The absorption type frequency meter, mentioned several times before, served as frequency analyzer.

The tank circuit was loaded only by the frequency meter and was therefore sharper than with an antenna connected. This test was made mainly to see what harmonics we get (and their relative strengths) when operating a driver or p.a. under various conditions.

No harmonics were detected when operating the stage as a true class A linear stage. When operated as a frequency doubler, the second harmonic became nearly as strong as the fundamental, and all other harmonics increased in power.

In the four cases shown in Table 1, normal class C drive was applied, so that for class A and class AB operation there was far too much. (This is a standard Amateur Radio practice which is wrong!)

**Approximate Relative R.F. Voltage of Harmonics**

(full drive as for usual class C operation)

Fundamental Frequency—15 Mc.

Class	2nd Harm. 30 Mc.	3rd Harm. 45 Mc.	4th Harm. 60 Mc.
	L. C.	L. C.	L. C.
A	0.30 0.80	0.17 0.08	0.09 0.01
AB	0.64 0.76	0.15 0.15	0.07 0.01
B	0.60 0.60	0.14 0.11	0.05 0.01
C	0.30 0.40	0.10 0.04	0.05 0.05

Table 1.

In all these cases the strongest fundamental signal was observed with the lowest grid bias (class A). The fundamental signal was 10 to 30 times as strong as the strongest harmonic due to the selectivity of the tank circuit. The stage was running with two watts d.c. input.

We see now that even such a small amplifier is capable of generating many millivolts of harmonic energy. How much more must we expect from a 100 watt rig with 800 volts of B+? Even these mV. harmonics could block out your t.v. set if they happen to fall on a picture carrier. We know that in the old days world-wide DX was worked on c.w. with two watts input!

We also see that the high Q tank circuit with the correctly tuned air capacitor (C-table values) will reduce the harmonics more than the L-tuned choke (L-table values). That is why some operators screw out the slugs of their Gelofo v.f.o.-exciters and place a 50 pF. air capacitor in parallel to peak the desired signal. This method reduces the harmonics, increases the selectivity and increases the drive.

In the test set-up it was observed that by slightly detuning the tank above or below the 15 Mc. fundamental frequency, changed the harmonic content considerably.

This test shows that we must expect harmonics of volt strength in the tank circuit of any class C final. If the v.f.o. has too much power and the driver not much selectivity (perhaps too much power also), then things must be bad for the p.a., because this stage can and will amplify the whole range of fre-

quencies pumped into its grid circuit. Certain accidental resonances of components, leads and valve capacities often cause higher order harmonics to be amplified with considerable strength.

## THE SELECTIVITY OF A TRANSMITTER

We have just seen that we will get strong harmonics in all our transmitter stages. Even if the v.f.o. and driver had a lot of selectivity and were driving the p.a. with a practically harmonic-free voltage, we would get harmonics in the p.a. stage as soon as we use class B or class C operation.

We will now investigate the tuned circuit to see why the tank cannot sort out the harmonics any better. Let us think of the problems in a receiver. In contrast to the receiver, we do not need much selectivity near the resonant frequency, but we do need to suppress any signal from the v.f.o. or doublers (half the transmitted frequency) and also any signal with twice (or more) the frequency of the transmitted signal. To get some idea of the selectivity of tuned circuits far from resonance, we will discuss the results of some practical measurements.

### Test One

A single tuned circuit with 50 pF. capacitance working on 14 Mc. was placed between a signal source and a v.t.v.m. so that the tuned circuit was not damped by the measuring set-up (Fig. 2).

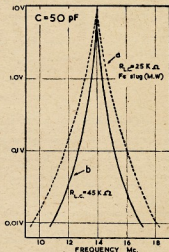


Fig. 2.—Selectivity Curves 14 Mc. Tuned Circuit

- (a) Image rejection 1:12 (2 x 455 Kc.)  
(b) Image rejection 1:50 (2 x 455 Kc.)

We see that the 10 volt signal at 14 Mc. is attenuated by 60 db. (1,000:1) three megacycles either side of 14 Mc. In other words, there is still 0.01 volt at 11 and 17 Mc. A similar coil with a medium wave iron dust slug is even worse. If we used this circuit in a receiver with a 455 Kc. i.f., the image frequency is only attenuated to one-twelfth of its value. This is why many Amateurs receive broadcast stations in the 14' Mc. band or have W stations appearing twice on 10 metres (near 28

Mc. and again near 29 Mc.). In the actual receiver or transmitter application our tuned circuit is not nearly so selective, because with the higher frequencies decreasing input impedance of valves and the loading of tuned circuits (transmitter plate current, antenna transformation) are lowering the peak of our curve considerably.

### Test Two

Fig. 3 shows what happens when we connect a valve and an aerial to our r.f. stage. R.f. stages in receivers and transmitters are similar in principle. Here a t.r.f. detector receiver was tested. The near resonance selectivity or bandwidth is quite good due to the use of regeneration (phone and c.w. case), but the far-off-resonance selectivity leaves a lot to be desired.

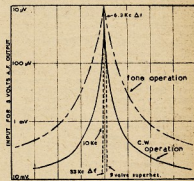


Fig. 3.—T.r.f. Receiver Selectivity Curves (regenerative detector).

As soon as an incoming signal reaches 59 plus 40 db. or 10 mV., it matters little if the transmitter is 0.5 or many megacycles away in frequency. That is why the t.r.f. receiver was replaced by the superhet. and is also the reason why our old transmitter with the tank circuit alone between the p.a. and the aerial is attenuating the harmonics only up to a point and everything else is going out, whether it is the 3rd or 20th harmonic. The dotted line in the middle of Fig. 3 indicates the improved selectivity provided by the three band filters of a superhet.

### Test Three

Fig. 4 gives the selectivity curves of two superhet receivers the writer built. We see the vast improvement we get with cascades of tuned circuits and band filters. The first superhet. the writer saw (back in 1927) had a true band filter of four or five tuned circuits between the i.f. stages which looked like the low-pass filter now used to reject harmonics of transmitters.

From these receiver examples we draw the conclusion that band filters are the answer to t.v.i. proofing the transmitter in regard to higher selectivity. Shielding of stages and filtering of leads is also required. So band filters between the frequency multipliers and the driver, and between the driver and the p.a. help to sort out the desired signal before we generate high power.

After the p.a. stage we use the tank circuit and an aerial coupler which

form a sort of band filter taking care, to some degree, of those harmonics generated in the final stage.

The low-pass filter has to be added to all those cases where further attenuation of harmonics is necessary. In this way we have a good chance of reducing the higher order harmonics above the cut-off frequency of the low-pass filter which may be set between 35 to 41 Mc. If our p.a. stage is driven by too strong harmonics of frequencies below the cut-off range of the low-pass filter, we may have difficulty in preventing the radiation of low order harmonics such as the second harmonic of 3.6 Mc. (outside our band). When this occurs, the selectivity of the tank circuit is insufficient and an aerial coupler may be satisfactory.

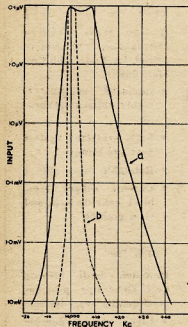


Fig. 4—Receiver Selectivity Curves.  
(a) Nine-valve superhet. Tuned circuits: three at 14,000 Kc., six at 405 Kc.  
(b) Eighteen-valve superhet. Tuned circuits: five at 14,000 Kc., seven at 5,300 Kc., nine at 352 Kc., and two crystals at 352 Kc.

Input	Bandwidth Kc.	a	b
0.1 uV	10	3	3
0.1 mV	34	7	7
1.0 mV	44	9	9
10 mV	58	22	22

## BOOKS REVIEWED

### THE RADIO AMATEUR OPERATOR'S HANDBOOK—4th Edition, 1957/8

Compiled by the staff of The Radio Constructor in collaboration with The International Short Wave League and published by Data Publications Ltd., 57 Maida Vale, London, W.9, England, this 44 page handbook contains a wealth of information for both Amateurs and Short Wave Listeners.

Amateur Prefixes are listed in alphabetical order of both countries and prefixes, the latter also including a useful record of bands worked or heard.

Provision is also made for a record of Counties of Great Britain heard or worked on various bands and a complete list of Zone Boundaries of the World as originated by Radio Magazines Inc. of New York ("CQ") occupies four pages.

Other sections are Time Conversion, a Mileage Table showing approximate distances from London of over 200 cities and towns throughout the world, Signal Reporting Systems, and a list of QSL Bureaux of the World.

Two short articles on "The V.h.f. Bands" and "Amateur Bands and DX Operating Technique" complete the book.

Our copy received from the publishers and the price is 3/- sterling.

### R.C.A. TRANSMITTING TUBES

Published by Radio Corporation of America.

Here is a new edition of a well known book, last published in 1938. The original volume can be seen in many Ham shacks even today.

The book is similar in layout to the familiar Receiving Tube Manual, and lists some one hundred and twenty types of transmitting tubes and transmitter type rectifiers.

Chapters on power tube fundamentals, installation and application, as well as sixteen typical circuits of h.f. and v.h.f. transmitters are featured.

All in all a book every Amateur, Engineer and all others interested in transmitting tubes should have on their book shelf. (Price 13/6 plus 1/- packing and postage.)

Our copy from Technical Book and Magazine Co., 295-299 Swanston St., Melbourne, C.I.

### R.C.A. RECEIVING TUBE MANUAL

Published by Radio Corporation of America.

The latest in this series has just come to hand. Coverage has been greatly extended to include the many new tube types recently introduced. It should be noted in the design of new equipment that many tubes widely used prior to 1950 are now being made for renewal purposes only. For this reason the presentation of the older types has been limited to basic data only, allowing greater space for the newer more important types.

The contents include a most interesting chapter on tube application and circuit design, as well as a chart giving full details on all television picture tubes.

This book should prove most valuable to all associated with the design of radio and electronic gear. (Price 10/-, plus 1/- postage.)

Our copy from Technical Book and Magazine Co., 295-299 Swanston St., Melbourne, C.I.

### COUNCIL OF THE NORTH WEST COUNTY DISTRICT

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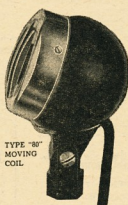


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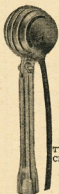


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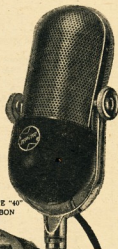
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TYPE "40"  
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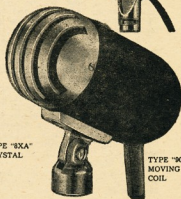
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# AMATEUR CALL SIGNS

AUGUST AND SEPTEMBER, 1957

## NEW CALL SIGNS

- VK— Australian Capital Territory**  
 1ZAR—J. A. Roberts, 20 Daves St., Kingston.  
**New South Wales**  
 2BB—E. M. Bailey, Eungella, via Murwillumbah.  
 2DM—D. A. Macaskill, 66 Vernon Ave., East-lakes.  
 2DN—A. J. Harper, Lot 20 Richmond Rd., Kingsford.  
 2LA—L. A. Lawson, 13 Charleville Rd., Wagga.  
 2QA—N. T. Durham, "Shangrila," Rickard Rd.  
 2RI—G. H. Hoyle, 32 Manners St., Tenterfield.  
 2TH—H. J. Trich, 18 Wakehurst Parkway, Seaforth.  
 2VV—R. M. Marsden, 43 Houston Rd., Kingsford.  
 2AKZ—C. D. Bennett, Electrical Engineering Dept., Sydney University.  
 2AND—B. H. Anderson, 14 Stuart St., Longueville.  
 2ASQ—J. J. Jorgensen, 142 Edinburgh Rd., Castlerag.  
 2AZE—G. R. Stewart, 33 Bon Accord Ave., Bondi Junction.  
 2ZCE—R. M. Whitelaw, 45 Church St., Croydon.  
 2ZCI—J. Dempsey, P.O. Box 252, Leeton.  
 2ZCO—C. Clarke, P.O. Box 1, Murrumbidgee.  
 2ZEB—R. E. Birley, 101 Burns Bay Rd., Lane Cove.  
 2ZJA—H. J. Stanley, 16 Morris St., Birmingham Gardens.  
**Victoria**  
 3BI—M. A. Trill, 84 Argyle St., Kew, E. 4.  
 3EL—E. Martin, 12 Scott St., South Caulfield.  
 3NV—A. B. Ayling, 46 Emily St., Murrumbidgee.  
 3VW—R.A.A.F. School of Radio, Radio Club, R.A.A.F. School of Radio, Ballarat.  
 3VK—M. F. Spiller, 46 Malting Rd., East.  
 3ZE—S. J. Beaton, 101 McKinnon Rd., McKinnon.  
 3AOL—B. E. Lloyd, 40 Westgate St., Oakleigh.  
 3ZED—E. Oldroyd, 515 Waterdale Rd., West Heidelberg.  
 3ZFL—T. K. Long, 32 Bladen Ave., Brunswick East.  
 3ZFP—O. P. Fudge, 65 Elliott Ave., Carnegie.  
**Queensland**  
 4AE—R.A.A.F. Radio Club, R.A.A.F. Station, Garbutt, Townsville.  
 4BN—W. S. Beazley, 9 Sirius St., Coorparoo.  
 4BO—B. P. Bowdler, 62 Swinburne St., Lutwyche.  
 4CW—K. C. Wolkett, 17 Hunter St., Mackay.  
 4LF—S. S. Dixon, 34 John St., Redcliffe.  
 4NS—L. L. Sharp, 16 Carl St., Buranda.  
 4AZ—J. L. C. Rickford, Dee St., Mt. Morgan.  
 4ZJ—J. J. Fuller, 31 Maple St., Wavell Heights.  
**South Australia**  
 5AW—D. A. Carthew, Penola.  
 5CR—W. F. Couper, 21 Battams Rd., Rayston Park.  
 5DE—R. A. Washington, 49 Swaine Ave., Rose Park.  
 5OL—L. O. C. Baker, Building 254, R.A.A.F., Edinburgh.  
 5ZDY—R. L. Dyer, 61 3rd Avenue, Seton Park.  
 5ZJM—J. B. Mitchell, 29 Manningsford Rd., Elizabeth-South.  
 5ZXY—C. G. Luke, 16 Kennaway St., Tasmore.  
**Western Australia**  
 6AB—A. B. Ward, 44 Ullapool Rd., Mt. Pleasant.  
 6HG—G. C. High, James St., Canning Vale.  
 6SC—B. J. Schofield, C/o. 6AM Broadcasting Station, Northam.  
 6ZAI—A. J. McCarthy, 81 Napier St., Cottesloe.  
 6ZAU—W. R. Cooper, 22 Watson Place, Maylands.  
 6ZBP—F. M. B. Paget, Upland St., Wagin.  
 6ZBU—J. Burrows, 140 Floister St., Subiaco.  
**Tasmania**  
 7ZAK—M. J. Watson, 33 Lochner St., Hobart.  
**Papua-New Guinea and Other Islands**  
 9EP—E. P. Black, C/o. P.M.G.'s, Dept. Single Quarters, Radio HPA, Port Moresby.  
 9LE—L. K. Eap, C/o. Dept. of Civil Aviation, Cocos Island.  
 9RD—R. G. Donovan (Mrs.), Station: Allotment 33 Section 42, Boroko, Port Moresby; Postal: C/o. P.O., Port Moresby.  
 9SB—D. S. Brown, C/o. Posts and Telegraphs, Port Moresby.  
 9ZAN—A. D. Nutt, Rugli, via McHagen, T.M.G.  
**Antarctica**  
 0AT—E. S. Trigwell, Davis, Antarctica.  
 0KT—E. G. Heinrichs, Macquarie Island.  
 0PC—P. E. Clemence, Davis, Antarctica.  
 0PT—P. B. Turner, Davis, Antarctica.

## CHANGES OF ADDRESS

- VK— Australian Capital Territory**  
 1ACQ—A. Morris-Reeds, C/o. Reid House, Canberra.  
**New South Wales**  
 2CD/T—C. Preston-Smith, 40 Tobruk Ave., Cremorne.  
 2IT—W. R. Beveridge, 18 Murdoch Ave., Turramurra.  
 2MU—L. J. Case, 66 Mercury St., Beverly Hills.  
 2VE—R. Hines, 34 Colaine St., Concord West.  
 2NK—D. E. Melbourne, "Kuranda," Honour St., Lawson.  
 2OY—J. C. A. Young, 41 Mepunga St., Concord.  
 2SG—S. E. Molen, 17 Margaret St., Strathfield.  
 2UJ—J. W. Thompson, 59 Walli Ave., Earlwood.  
 2UH—N. G. Hansen, "Hazelhurst," Murdoch Ave., Cremo.  
 2AGM—W. C. Berry, 23 Norton St., Ballina.  
 2AHJ—G. C. Paterson, 32 Beswick Ave., North Ryde.  
 2AIZ—E. G. Powell, 156 Moorefields Rd., Kingsgrove.  
 2AJS—E. J. Smyth, 41 Ordinance Ave., Lithgow.  
 2AMN—R. D. Martin, 383 Chloride St., Broken Hill.  
 2ANL—J. B. Doran, 153 Lockyer St., Adamstown.  
 2APA—A. F. Ashby, 1745 Pittwater Rd., Mona Vale.  
 2ARU—F. N. Sizemore, 2 Bourke St., Botany.  
 2ASZ—R. L. Lear, 40 Brisbane St., St. Marys.  
 2AVZ—T. W. B. Jones, 96 William St., Bankstown.  
 2AWW—G. D. Wheaton, 738 Anzac Pde., Kingsford.  
 2AXB—E. Carruthers, Radio Branch, Tasmania.  
 2AXH—W. H. Hannam, 22 Merley Rd., Strathfield.  
 2ZAW—F. Salinger, 5 Rickard St., Balgowlah.  
 2ZBB—G. P. Pearson, 2 Kethel Rd., Cheltenham.  
**Victoria**  
 3BU—W. A. Brownhill, 75 Gheringhap St., Geelong.  
 3GU—H. Chapman, Flat 22, "Lorna Court," 51 Maltavers Rd., Ivanhoe.  
 3IR—D. R. Twigg, 6 Kennedy St., Glenroy.  
 3JR—E. M. Maroney, 37 Tanti Ave., Mornington.  
 3PQ—J. E. M. A. Wilkinson, Lot 224 William St., Thomastown.  
 3QU—C. H. Buckingham, 28 Perth Ave., Albion.  
 3VS—S. G. Edwards, R.A.A.F. School of Wireles, Ballarat.  
 3VH—L. W. Hoobin, 56 Reserve Rd., Beaumaris.  
 3WQ—C. C. Chirnside, 8 Blake St., Caulfield.  
 3APC—F. Clark, 32 Collins St., Mentone.  
 3AKD—A. K. Fielden, 41 Fakenham Rd., Ashburton.  
 3ZAK—E. R. Kelly, Cottage No. 3, Radio Australia, Shepparton.  
 3ZBY—A. I. Morrison, "Killeavey," Eltham.  
 3ZCH—J. Howden, 285 Elgar Rd., Box Hill.  
 3ZDD—J. E. S. Day, James St., Pakenham East.  
**Queensland**  
 4HM—H. J. Murphy, 478 Stafford Rd., Stafford, N.12.

- 4ZAG—J. C. E. D'Alton, Callaghans Rd., Narangba.**  
**South Australia**  
 5RE—H. Hoberoff, 40 Beatty St., Linden Park.  
 5UZ—H. E. Brock, 44 Asquith St., Nalls-worth.  
 5VC—J. G. Mason, 15 New St., South Plympton.  
 5WA—C. J. Waterlander, Hill St., O'Sullivan Beach, via Morphett Vale.  
 5ZBD—C. Taylor, 16 Rowland Rd., Magill.  
**Western Australia**  
 6AJ—A. J. Jeffery, 8 Harper St., South Perth.  
 6DF—M. A. Du Feu, 14 Kildara Rd., Florest Park.  
 6EE—R. R. Elkin, 35 High St., Fremantle.  
 6ZBA—J. Bartlett, 48 Grafton St., Bayswater.  
**Tasmania**  
 7DW—D. M. Watson, 35 Corena Rd., Lindis-dale.  
 7SD—D. M. Smith, 15 Augusta Rd., New Town.  
 7TR—R. E. Conrad, Marys Hope Rd., Berriedale.  
**Papua-New Guinea**  
 9TZ—C. D'Evelyns, Rugli, via Mount Hagen, Lae, N.G.  
**CANCELLED CALL SIGNS**  
**New South Wales**  
 2DS—G. H. Diedrichs.  
 2FK—J. W. Kinsella.  
 2GR—T. Storer.  
 2MV—C. W. Welsh.  
 2AAF—A. J. Fisher.  
 2ACV—A. C. Mulcahy.  
 2ANB—R. J. Baty.  
 2ANQ—J. D. Watson.  
 2ZBN—A. D. Nutt, Now VK3ZAN.  
 2ZBS—W. J. Steuart.  
 2ZCR—R. M. Marsden, Now VK3ZV.  
**Victoria**  
 3QG—C. Preston-Smith, Now VK3CD/T.  
 3AGN—M. G. G. Nielsen.  
 3AMZ—B. G. Powell, Now VK2AIZ.  
 3AQH—L. W. Hoobin, Now VK3VH.  
 3ZC—J. A. Trill, Now VK3BI.  
 3ZEB—S. J. Beaton, Now VK3ZE.  
**Queensland**  
 4ZAS—L. L. Sharp, Now VK4NS.  
**South Australia**  
 5CW—W. R. Clifton.  
 5EW—E. W. Evans.  
 5FA—J. B. Anderson.  
 5FN—R. J. Poole.  
 5SD—D. S. Brown, Now VK3SE.  
 5WB—W. S. Beazley, Now VK4BN.  
 5YL—L. Lindie.  
 5ZAM—D. A. Carthew, Now VK5AA.  
 5ZDF—R. A. Washington, Now VK5DE.  
**Western Australia**  
 6ZAE—L. K. Eap, Now VK5LE.  
**Tasmania**  
 7BK—S. G. Kitchen (Capt).  
 7WN—W. R. Ion, Now VK5AIO.  
**Papua-New Guinea**  
 9LW—L. J. Wright.  
 9MP—F. M. Nolan.  
 9YG—G. E. Smith, Transferred to Victoria.

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# DELEGATE FOR I.T.U. CONFERENCE

## Matter Raised in Federal Parliament

Now that members are giving earnest consideration to sending an Amateur representative to the next I.T.U. Conference at Geneva in 1959, it is interesting to read the following extract from "Hansard" (Senate, 30th October, 1957).

**Senator Hannan:** "I wish to refer to the Postmaster-General's Department. This department is responsible for the licensing and control of all radio communications in this country. In particular, I refer to the control of amateur radio operators. Part of the function of the department is to keep a watch on the operating frequencies to see that amateurs operate within the prescribed power limit, which is 100 watts in this country. Other countries seem to trust their amateurs more. New Zealand allows them 250 watts and the United States allows them 1,000 watts.

"The matter on which I seek assistance involves the International Telecommunications Union, which determines the radio frequencies used throughout the world. It meets about every five years and the next meeting will be at Geneva in 1959. On a governmental and an organisational level—two distinct levels—the nations will allot the frequencies which amateurs and others may use. The Wireless Institute of Australia represents the radio

amateurs of this country. The cost of sending a delegate from Australia to the conference at Geneva is estimated to be £1,500. In view of the extraordinary contribution that these men make to the national well-being in peace and in war, will the Minister examine the possibility of providing assistance on a £1-for-£1 basis to send a delegate to Geneva? The Minister for Repatriation (Senator Cooper), who represents the Postmaster-General in this chamber, and indeed the Postmaster-General (Mr. Davidson) himself, have been remarkably sympathetic to this fraternity in the past.

"I emphasise the need for their good offices at the moment by indicating that at present the 20, 40 and 80 metre bands, which are the normal bands of communication for amateurs, are being used by what are known as intruders or commercial pirates. When a commercial organisation infringes frequencies belonging to amateurs, the only redress available to the amateurs is through the government of the country concerned. They have no legal standing to enforce their rights. Therefore, I ask the Minister to consider providing assistance to send a delegate to this important conference so that these men may have reasonable protection for their hard-won rights."

## Amendments to National Field Day Rules for 1958

These amendments are based on suggestions from the Division.

### RULES

1. There shall be six sections to the Contest—

- Single operator portable and mobile transmitting phone.
- Single operator portable and mobile transmitting e.w.
- Single operator portable and mobile transmitting open.
- Multiple operator portable and mobile transmitting.
- Fixed stations working to portable and mobile stations.
- Reception of portable and mobile stations.

### SCORING TABLE

Portable and Mobile Stations:

- For contacts with fixed stations within the competitor's own State ..... 2 points.
- For contacts with fixed stations outside the competitor's own State ..... 3 points.
- For contacts with other portable or mobile stations within the same State ..... 5 points.
- For contacts with other portable or mobile stations outside the competitor's own State, 10 points.

Rule 2 (last paragraph):

Extend so that it may read: "except in the case of stations entering for the multiple operator section, where several bands may be used simultaneously."



# Papua and New Guinea

## VACANCIES

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**RADIO TELEGRAPHIST—£988-1198 p.a.**  
(2 positions)

**QUALIFICATIONS.**—Second Class Certificate of Proficiency (P.M.G.) or equivalent; ability transmit at 25 w.p.m. and use typewriter for reception of radiograms at 30 w.p.m.; one year's commercial experience desirable.

**SENIOR TECHNICIAN—£1258-1318 p.a.**

**QUALIFICATIONS.**—P.M.G. Senior Technician (Telecom.) or equivalent; automatic and manual telephone experience.

**DUTIES.**—Install and maintain equipment at main exchange or in charge small district.

### GENERAL INFORMATION

**SALARY.**—Rates quoted are actual for unmarried appointees and include allowances and adjustments. Married officers receive a further £125 p.a. Additional Territorial allowance of £25 p.a. after 5 years' service and a further £25 p.a. after 7 years' service is also payable. Minimum rate applicable, unmarried male is £965 p.a.

**ELIGIBILITY.**—Adult male British subjects under 45 years.

**APPOINTMENT.**—Permanent subject to satisfactory probationary period.

**LOCATION.**—Appointees are required to serve anywhere in the Territory.

**ACCOMMODATION.**—Single quarters only available. Married accommodation not available under 21 months from date of appointment.

**SEPARATION ALLOWANCE.**—Payable at discretion of Territory Administration; designed to compensate for added expense of married appointee obliged to maintain family outside Territory.

**LEAVE.**—Three months after 21 months in Territory. Additional 3 months' leave after each 6 years' service and 6 months' furlough after 20 years' service.

**TAXATION.**—Income derived by residents of Territory from sources within Territory, is not at present taxable under Commonwealth legislation.

**FURTHER INFORMATION.**—An information handbook on the Public Service of the Territory is available from the Department of Territories, Canberra, or Sydney, or from any Commonwealth Public Service Inspector, Commonwealth Employment Office or official country Post Office. Other enquiries to Department of Territories, Canberra (phone U0411, Ext. 28A).

**APPLICATIONS.**—Submit on prescribed form available from Offices mentioned under "Further Information" to The Secretary, Department of Territories, Canberra, by 31st December, 1957.

## YL CORNER

BY PHYL MONCUR\*

### WHAT IS A HARMONIC?

A harmonic is the son of a Ham who for the first few months of his life squeals with all the piercing alarm of a solid heterodyne.

Between the ages of two and four he spends his time turning Dad's switches on and off and calling "look-you", "look-you".

At six he builds his first wireless set. The cabinet from a fruit case, the coils are springs from an old couch; for the dial he uses the face of a broken alarm clock, and the soap saver is just the thing for a microphone.

At eight he still has the fruit case but has added a broken vernier dial and some prehistoric condensers which somehow or other Dad has managed to part with and Dad also graciously gives him a couple of burnt-out tubes.

At 12 he really starts building; he rewinds a burnt out transformer and attempts making a variable condenser from ends of jam tins he has saved up. He's going the bug fast, he's Dad's pal and Dad is as proud as can be.

At 14 he's at the experimental stage. He's doing science at school and he tries making a battery with Mum's preserve jars and some strips of lead he's removed, unbeknown to Grandma, from a slim candle up at her place.

At 15 he's full of questions, at first they're quiet within Dad's scope, but it's not long before he's got Dad guessing and we find Dad secretly swatting up text books so as not to lose his prestige.

At 18 his reading is completely comprised of radio books. He treats with disdain such things as cowboy novels, the war, and the movies. Girls are most definitely taboo. His bedroom is fast becoming the second shack in the house and pieces of radio gear are to be found on top of his wardrobe, in his cupboards all mixed up with his clothes, under his bed, and side cutters and pliers can often be found even in the bathroom. He's going through it all for the second time in her life but somehow, being so well seasoned, is more than equal to the task. He's now off to appreciate the fact that bodgies do not come in this category.

At 17 he masters the code and shames Dad by sending it much faster than Dad can receive.

At 18 he gets his licence and really digs into the building side of radio, but unfortunately for Dad he's always short of cash and is continually borrowing parts of Dad's gear and when Dad wants to go on the air he has to ask for a loan of them back again. He gets interested in v.h.f. and borrows Dad's QX/40 to try out a new rig he's built up. He switches it on and up goes Dad's QX/40. Having got his licence he feels he knows everything there is to know about radio and proceeds to educate his elders in the theory of this science. There is no Ham who has more vintage or experience could possibly know as much about radio as he does when he's 18. To him poor old Dad is just plain dumb, his own knowledge, he feels, is just far beyond that of his father's.

By the time he's 22, Dad reluctantly begins to admit that perhaps he's right!

\* 235 Union Road, Ascot Vale, Vic.

### "OK DX CONTEST 1957"

#### International C.W. Competition

On the occasion of its fifth anniversary the Czechoslovak Central Radio Club invites foreign Amateurs to take part in the 1st International C.W. DX Competition—"OK DX Contest 1957".

#### CONTEST RULES

1. Stations participating in the contest will contact stations of other foreign countries (the countries to be understood as per the "Official List of Countries for the DX C.C.").

2. Contact between stations of the same country as well as repeated contacts with the same station on the same band are not allowed.

3. The contest period starts on 0000 G.M.T. and ends at 1200 G.M.T. December 8, 1957. Bands used are 3.5, 7, 14, 21 and 28 Mc.

4. Stations participating in the Contest will call "Test OK".

5. Stations will send six-digit numbers indicating the signal report (RST) and the current number of the contact, starting from 001. Contact must be broken, consequently irrespective of the bands used.

5. One point is earned upon sending an exchange and two points upon receiving correctly an exchange; hence three points can be earned for a complete contact. Contacts with Czechoslovak stations earn double value of points.

6. Continents worked during the Contest (i.e. Europe, Asia, Africa, North America, South America, and Oceania) serve as multipliers. The multipliers are considered for each band separately and, consequently, the maximum attainable number of multipliers is 30.

7. Entries may be made in one of the two classifications: (a) Single-operator stations, (b) Multiple-operator stations. Multiple-operator stations are those obtaining assistance, such as monitoring other bands, keeping the station log and records, etc.

Each station will state in its log whether entry should be made for: (a) One band operation (in this case the log data from other bands will serve for inspection only), (b) All the bands used by the station during the Contest.

8. Separate logs must be used for each band. The logs should contain the following data: Date, time, station worked, exchange sent, exchange received, points, multipliers (with the first contact only).

The logs should include the following statement: "Herewith I declare that I have observed the rules of this Contest as well as the regulations of the licensing authority in my country, and that all the data stated in this log are true."

9. Stations of the two separate classifications which have achieved top scores on individual bands and on several bands, respectively, will be awarded a certificate and a flag, while two further stations will be awarded a certificate.

In addition, a list of records of stations in individual countries will be prepared, and the first station of each country will be awarded a certificate.

10. (a) Stations which contact 100 different Czechoslovak stations will obtain the "100 OK Award". (b) Stations participating in the Contest may obtain the "365 Award" in recognition of their working all continents; also special endorsements will be placed on these awards if all continents have been worked on a single band.

No confirmation is necessary for the awards as the contacts will be verified from the logs of other participants.

11. Logs should be sent to the Czechoslovak Central Radio Club, Box 69, Prague 3. Logs must be mailed not later than 15th Jan., 1958.

12. Decisions of the Award Committee are final.

## W.I.C.E.N. NOTES

The new title proposed for C.D.E.N. has now been accepted and preparations are well in hand for the printing of the Authorisation Cards.

The advent of Sputnik I and II demonstrated conclusively the speed and efficiency with which Amateurs rise to the occasion whenever necessary. We "dips our lids" to all who took part. Furthermore, the important part the Amateurs can and will play in I.G.Y. activities has now been forcefully brought home to those who were very doubtful of his reliability and worth.

One point recent activity clearly demonstrated was how important it is for Amateurs to learn to abide by a strict operating procedure and cease engaging in unnecessary matter. The latter feature was responsible for slowing down correlation of information during the first few hours when time was most important. Tense but concise reports and "cut" should be the goal for which we should all strive; thus ensuring that the maximum information is passed in the minimum time. Practice and more practice is the obvious way to achieve the desired result.

One question which arose from the publication in August "A.R." of section 1 of Instructions for W.I.C.E.N. Operators was regarding (1.5) the frequencies 3501 and 7002 Kc.

Answer: These frequencies were chosen as national guard frequency for W.I.C.E.N. after consultation with the Amateur Administration. In the interest of safety they should be strictly adhered to in the same manner as Air and Maritime Services maintain close watch on international guard frequencies.

Change to local network frequency should only be made after contact has been established. Under no circumstances should guard frequency be used for traffic handling; however, should more assistance be required, it should be sought by calling on guard frequency.

We cannot stress too strongly the necessity of putting the welfare of W.I.C.E.N. as a whole before local beliefs and customs.

In order for W.I.C.E.N. to be accepted by the community as a vital force, it must operate in principle as a national body not as a number of isolated groups. Naturally in times of emergency it will be necessary to improvise, but if on the whole we all follow the basic pattern laid down in the rules we will achieve much better results and greater recognition.

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## DX ACTIVITY BY VK2QL

It is my unhappy task to mention in addition to the list of "Silent Keys"—VK2CM and VK5HL, 2CM can be classed as one of the "Fathers" of DX. It is a far cry these days from the type of equipment Charlie used in his early DX experiments. I do not propose to mention it further here as I feel sure there will be an article in this magazine on Charlie's early DX'ing. For 5HL, Amateur Radio was a great boon as he had been crippled for his 29 years of life. John became very well known to the DX fraternity.

Early this month very good conditions were experienced on 14 and 21 Mc., but the last ten days showed little promise of good DX. However, it is an ill wind that blows nobody any good, for with the falling off on those two bands, the DXers on 40 Mc. have been able to come into their own for DXing. For those who had the receivers to cover the 20 and 40 Mc. bands, a new type of DX, to wit, "UA/SPUTNIK No. 1" produced some interesting things to think over for those interested in propaganda. The UA/SPUTNIK No. 1 will be cocked cockeyed in the final washup of all the information that is gained.

## NEWS AND NOTES

There is not a great deal this time. This is the section of the page I would like to see build up, as there is very often a great deal of general information each one may pick up that would be of interest to all DXers. So if you come across anything which could be of general interest, let's have it.

Any doubts that CRAC was not OK have been dispelled by the receipt of his QSL. He is ex-CB4AL.

SV0WQ was active from Crete on 14, 21 and 28 Mc., but there have been no reports of activity from Rhodes, although he was reported to be going there.

CR8AB is reported to be active on 14 Mc. c.w. round 1300z (SWO).  
UA00M is now active on 21 and 28 Mc. A lot of QSLs arrived in the VK2 Bureau from

CE9AE is active from Chilian Antarctica on 21 Mo.

7LZ worked GB3SF at the International Scout Jamboree. This GB prefix is allocated in the U.K. to special Amateur stations operating from special locations such as the Jamboree. I do not know where the GB stations mentioned later in these notes were operating from.

An HVI station was expected to be operating for the c.w. part of the "CQ" Contest. What a score he should be able to produce? (TLZ).

VP8BY is active on 21,205 Kc. around 0030z (TLZ).

ZLSAA sez that absorption is so heavy in the Atlantic waters that vessels are only sighted

the Antarctic regions that rarely are any signals heard below 50 Mc. This has been mentioned to me before by OAB, so a 3.5 Mc. contact with Antarctica is a matter of being around at the right moment. ZLSAA reports hearing one VK3 early in the year.

For those interested in the story of AC4YN should try and get hold of the book "Captured in Tibet," written by Robert Ford. I have only seen a resume of it so far.

## ACTIVITIES

3.5 Me.: Nil reports.  
7 Me.: 2AMB: VS1HU\*, DUTSV, SP5WH,  
ZS6APL, ZS6EQ, ZS6ATT, 2QL: ZS, OZ, W\*,  
KL7\*, JA, KG6\*. Rod de Balfour: JA, KH6,  
W, BERS195: FX8UA (a strange one there),  
HRIJH, DUTSV, KR6AK, KL7, UH8AB, UA3,  
ZE2RC, YO3FB, YU2QT, ZE2JG, ZE4JM, ZE-  
6JX, ZS6ASX.

1AT, UMUKAA, XW3AG, URZKAA, 2AIR,  
 SV0WR, 984CM, SV0WC/Crete, EASAW,  
 ZC4IP, DL0HM, UBSKAB, OG5IE, YP4AO,  
 HADA, UC, UQO, OA4FA, ETZKY, ZC-  
 5AL, UACU, VQ3Q, HBCSL, SIMM, IS1FC,  
 HTTAT, HTTAT, HBCSL, SIMM, IS1FC,  
 EA5DE, VQ3Q, FLAAB, FB8AC, ZP5CF,  
 2AMB, TIF2Z, ZL5AA, OA4AP, ZC5AL, FP-  
 8AP, ZK1AU, FB8ZZ, CR8AC, ZK27H, VS8AD,  
 KCU4SA, 3AGH, ZC4GT, PY2BAU, FO8AA,  
 UA5CD, ZP5HK, KCU4SA, the op. 9GL,  
 ex-KPMAA, CN8ID, SV0VQ, VQ3Q,  
 ZP5HK, SV0VQ, ETZKY, UQZK,  
 FB8AJ, ETZKY, VQ8AB, 5ASTH, JT1AA,  
 UMNAA, ZP5CF, ZP5HK, VQ3QC, VF2LU,

† Frank T. Hine, 30 Abbotsford Road, Homebush, N.S.W.

UIM, HLAC, XWAE, VQAC, CGFZC  
 UDAL, EABCE YKAT, H3CL, IDO: UO  
 CAC, FFAJ, ZMAE, URKAA, HLAM,  
 UG, UG, UG, UG, UG, UG, UG, UG,  
 IKS\*, ISIZI\*, ZC5AB, VPY, URKAA,  
 HLB\*, UA0, UA\*, UA\*, Z3CVP, U8KAB\*,  
 UBKKAA, URKAT, T1PZ, JTIA\*,  
 UG, UG, UG, UG, UG, UG, UG, UG,  
 Cre, UPZAN, CRBAC, W4FCB/K5A, URKAA,  
 VQSGJ, VQAC, LZKIS, SWO: VPD8B,  
 SVWQK, ZC\*, UA1DZ, UA5LG, SGM, who  
 reactivated with new UG:  
 AAO, YZ\*, OZ\*, HB\*, ON\*, ZC\*,  
 SP\*, ZC\*, YV\*, VU2\*, SRK: W, JA\*, JLZ,  
 VKOP\*, TP1F, HL2AD\*, OA7I, BRS,  
 UG, UG, UG, UG, UG, UG, UG, UG,  
 G3BAW, FBZZ, PR7CZ, HL9KT, HL2AM,  
 KCJC, KC4USA, MPABE, OQSC, OQ5,  
 OXMA, OQVN, SVWQK/Cre, U51M, T1PZ,  
 DGGT, A\*, UG, UG, UG, UG, UG, UG,  
 UG, UG, YSBB, QJ3TW, QSGC, V98B,  
 XZTH, YKAT, ZETJN, ZD6DT (phage), Don  
 Grantley, EA, UA0, OAAP, CT3AB, VQAC, UA  
 UG, UG, UG, UG, UG, UG, UG, UG,  
 UG, XEIM, OQIE, QGWR, VQSG, BYVUS,  
 UC2KAB, YNIAA, OAK, WIA-1389B, HL2AB,

**W. Phone:** 2AMB; VY5B8\*, HK7AB\*,  
HK7LX\*, TIZ0P\*, COTFH\*, CN8AB\*, OA4EP\*,  
JE7JR, KP4ZC, VY5BD, QG5PH, HILKT,  
KJ6V, KQ9R, W4DZ, ZS8A, ZS8B,  
2JE\*, Z8CYQ\*, VQ4AF-P, COB0Z\*, FZTDC\*,  
OQ8FI\*, FWBA-A, ISFL, F9UC/Coriscia\*, ZD-  
6DA\*, OAIK, IZ8E, YU7H, ZS8A, ZS8B,  
SM7, TIGLEZ, CX1FB, PJ2AA-, TI  
5MT, VUPK\*, AS7PJ, HK4DP\*, KS8AF-B,  
Smith (VZ3-SWL); ISFL, ZD8DT, 11MU, CT-  
10, ZS8A, ZS8B, ZS8C, ZS8D, ZS8E,  
HP3PL, KS8AF, HK4DP, EATEB, Don Grant-  
ley: KS8AF, VR3C, Red de Baffin: A lon-  
gish list, pickings of which are: IZ8F, ZD6DT,  
VE7AR, VQ4D, VQ4E, ZS8A, ZS8B, ZS8C,  
RCIAG, HP4CD, HK3BF, VP1EE, HH2HU,  
VP2LU, VPFCY, CEAC, KS8AF, ZLSAA.

20 Me.: UA/Sputnik/SM. Many of the DX  
gang.

Me. CW: 0AB: OQSPB, SV0WQ/Crete\*  
 5ASTE, CE9AF, CR0GA, TF5TP, SVIAB  
 3A2BP, 2AIR, FA30A, UC2CB, UBSUW  
 CE3AG, CE3RE, 4XC4, W4CFB/KS4, FA-  
 8ZZ, UDBKAB, SV1SP, H29LA, 3VCYC  
 2QL, ZB1CR, CE3RE, CE3AG, ZP5CF, FY-  
 7YC, SV0WQ/Crete\*, 3A2BT, 4X4DR, PY-  
 2AQ, UC2CB, W4CFB/KS4, UA0AM  
 3VCYC, SV1SP, UQ2KAA, UL4HU, CN2AY  
 UR2KAA, ZD9AB, VP2LU, 5ASTE, 5WO: OK-  
 3DG, ZSSU, UA1DZ, ZC3AL, 7LZ: UR-  
 2KAA, PK6AT, UA1DZ, KR6CI, FA9VN

21 Me. Phone: 2AGH: KB6BH\*. 2AMB: PY-  
2EQI\*, PYIAQT\*, OA4V\*, CE3GI\*, FU8AD\*,  
EA8\*, 5WO: KB6\*, PJ3AA\*, CX3BH\*, JLZ: KB-

6BH\*, CO2HB\*, CE2AY\*, CX3BH\*, PY4AK\*, VK0DC\*, VK0DJ\*, CN8MM\*, FU8AD\*. Red de Halfwave (excluding the more usual ones is

**Halfour** (repeating the more usual ones on his list): SP5KAB, UA1FE, GC6FQ, GD3GMH, 5A1TG, CNSJO, MP4BBF, AP2Z, HSB1, OD-5AV, 4X4HK, 4X4CK, VE3AHU/SU, BV1US, HL9KT, FU8AD, TG8AD, VP9CY, VP5EM, CO-2HB, HH1HB, VP7NV, HC1ES, HK4DP, PJ-2AA, OA4DB, OA4V, CX3AA, CX3CO, CE9AB

VP1EE, HR3LW. Good DX Rod.  
28 Mc. C.W.: 2QL: ZC3AL\*, CE3AG\*, K6TSQ,  
KG6\*, ZS5JM, JA\*, KM6. Europeans. 5WO

25 Mc. Phone: 5WO: SV0WQ/Crete, 4STYL<sup>o</sup>  
ZS<sup>o</sup>. QG5RU<sup>o</sup>. VB2DB<sup>o</sup>. ZC4IP<sup>o</sup>. T12ES<sup>o</sup>. TL

2LA\*, W\*, VE\*, Europeans. Red de Balfour.  
KR8DQ, KA, VU2RM.

30 Me.: 2WH: JA\*. 2ARG: JA\*.

### QSL SITUATION

QSLs have been received as follows: 2AIR  
CR8AC, VP7NM, 2AMB; KR6FM, KC6CG (1  
Mo. phone); CR5AI, PZ1AP, 2QL; CR8AC,  
9S4CM, KC6CG, ZS2MI 5WO; FB8CD, UQ  
2KAB, W6UO/KS9, KB5BH, FE2AE, HH3LD  
HI3LL, VP7NK/KP9, KZ2AD, CR8SP, VO1EK  
XW8AB, VP5DS, 7LZ: VR6TC, CR8AC, BR8S  
195: KP4AIO, KR6AC, KZ5LB, VP8VY, UA-  
0KFF, UA6OM, ZC4IP, Red de Balfour: KC-  
6UZ, VP8EM.

JOE, 202, has this month to SEG for his QSP  
of 8AB, 2AGE who has been not quite so  
active due to a rebuilding programme, 2AIR  
trying to find out his propagation from the  
raised g.p. antenna, 2AMB who is happy re-  
garding the QSLs he is receiving these days.  
We welcome 4DO to the page. Tnx Hal, it  
all helps. SWO who has been busy with shack  
rebuilding, 8KR for his QSL, 8GM.  
Your very much appreciated Ray. Rod  
de Balfour for his relay of 7LZ. Hope your  
cubical quad gives the desired results Rod.  
Barney Smith a new subscriber from Sydney

we also welcome Don Grantley who, like WIA-L8639, finds milking quite a handicap to DX activities.

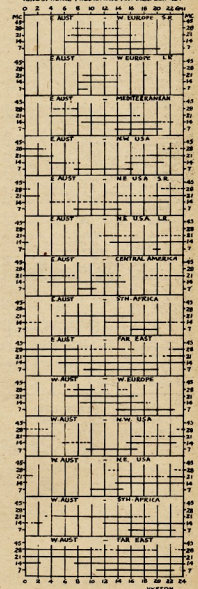
**DX Activities.** Although it may be early, next issue will be too late, so I will take this opportunity of wishing all readers the best of Season's Greetings, and a special one for all those who have been DXing since Christmas. I hope the year 1988 finds a return towards that "Amateur Spirit" amongst all DXers. Sometimes it seems a thing for the "historical record" to be kept by those who are not yet there; it is just another step where Amateur Radio itself will become the "historical" all too soon. One night recently I checked 14000-14200 KC and counted over 600 QSOs being posted in the band, some good hunting. P.S.—Don't forget deadline this month, 29th Dec.

### QTHs OF INTEREST

KB6BH—Box 563, U.S.P.O. 06/50,000, Canton  
Is. (2AGH).

5A5TH—Via R.S.G.B.  
VQ6AB—Via R.S.G.B.  
SV0WQ—Box 564, Athens. Also via W6GHH.  
3A2BT—Via R.S.G.B.

## IONOSPHERIC PREDICTIONS FOR DECEMBER 1957





*The Season's  
Greetings  
to all our Customers*

*Deck out the Walls with Garlands gay,  
And let the kindly laughter play,  
Hear the Chimes so sweetly sounding,  
Christmas happiness abounding,  
All that's good and true be thine,  
At this merry festive time,*



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were as big as grasshoppers, so he says! Once again we returned to Jack's QTH where Mrs. JJO had a very nice supper waiting. Once again many thanks for your understanding of the inner man. Mr. Ross, it is truly appreciated. A discussion of the newly released 6 mx band took place, while some of the boys inspected John's new G2ZT bug next door.

Quite a few of the boys have opened hearing JAs, the band has been wide open on occasions. Stimulus enough!

The next tx hunt will, as usual, be held on the 1st Friday of December. Merry Xmas all—4ZAE.

#### SOUTH AUSTRALIA

Which VKS will be the first to break 4LW's record of 18 JAs in one day? Congrats fellow! It must have been a thrill.

Master Sputnik brought quite a bit of favourable publicity to a number of both h.f. and l.f. types, and was the means of spurring quite a bit of activity. Let's hope next time the 108 Mc. frequency will be used and the gear prepared for it brought into service. What with space ships, high sunspot counts with mounting r.u.f., there is a busy time for v.h.f. ahead.

It would not be right to omit the details of how one well known "all-band" type worked to get back on 8 mx. Like a lot of others, his 6 mx gear, including the 4 el. beam, was disassembled, put aside or just thrown away as spider webs, so out it all came, dust removed, crystal located and first of all the converter put into service; no signals heard on it, but functioning on low power. Then the real dandy on electric drills and welders. Next time the tx. Now being in a hurry to get back on a breadboard layout was decided upon, starting with an 8V2 tube as 1st atal osc. into a 12AT7 into a mystery tube that looks like it will bluish badly at 20w. Input coils and condenser tuned up, a 100 ohm grid dipper and right on the nose, wiring checked O.K., ac. switched on and voltages appeared normal—but no osc! After frantic searching for a resonating circuit, etc., and generally wasting a lot of time, finally discovered there was no atal in the holder. Who wipes it off! That's the end of the matter. Who are we talking about is the other. No, not me, but my nearest neighbour Ham and was he mad, why he nearly re-vamped his 2 mx gear in a day!

John SZBA has his 6 mx gear going using a line-up of 6G6, 12AE, 632 tripler, 628B final, running 400w on the plate and 150w on the screens with a cunning device using a 6BS7 as a diode monitor from the output.

Keith SMT not far behind, but he is being generous in giving away most of his 6 mx gear to the other boys. The h.f. gear (all things), found he had to start from scratch. It won't take him long to get there and in passing, little bird told me he put his beams in order at 11 p.m. one night!

Hughie 5BC heard again quite consistently on 2, passed his QTH quite recently and really envy that location. A perfect spot for take off in any direction, so we are expecting great things from you my friend—5EP.

#### WESTERN AUSTRALIA

The Oct. meeting of the Group was held on Sat. Oct. 5, at D.C.A. A very welcome visitors were Geo. 6GH, Dave 6WT and Ken Allen. The lecture for the evening was given by Mr. Hart, of the Division of Kilystroms. Mr. Hart gave us a good insight into the construction and working of these valves, complete with slides showing exploded views of the different sections of the Kilystrom. Afterwards in the workshop we saw a Kilystrom working and also explored the various bits of gear and equipment that are used by D.C.A. We are very much indebted to Mr. Hart for his very fine lecture and also to Mr. Geo. Rann, of D.C.A., who made the whole evening possible.

Meeting nights have been changed from Saturday nights to the fourth Monday night in the month. This change will help a lot of members who have been unable to attend on Saturday nights.

The fox hunt was held on Sat. Oct. 26. The fox was unknown, but the hunt was a real long story short, the tx was found hidden under a bridge; the beam was suspended under the bridge and firing down the valley. John 6GU was the culprit.

The first Monday night meeting was held on 28th Oct. and the attendance showed improvement. Harry 6Z2 came along and made very welcome. Members enjoyed a color film taken by Jack 6ZBU and his XYL, Mary, of a trip by road to Geraldton and included near fishing, beautiful flowers and views of the cray fish industry. Many thanks Jack—6ZAV.

## S.W.L. SECTION\*

To begin this month's notes I must say how sorry I was no notes appeared in last month's issue of "A.R." The reason for this was that I received only one letter for the month and so did not feel inclined to prepare any notes with such little support from other s.w.l.s. So if you wish to see this section in the magazine, continue regularly to put your pen to paper and let me know about your activities.

#### SHORT WAVE LISTENERS' GROUPS

Recently a circular was forwarded to the Council of each Division of the Wireless Institute under the sponsorship of the Victorian Division Council by the Victorian Division S.W.L. Group. These Groups can only be conducted on a Divisional basis and it is not practical for a Group to admit members from within another Division. The Victorian Group, bearing this in mind, suggested in the circular that Groups should be formed in each Division. So far, to the best of our knowledge, Groups have been formed in the Victorian, South Australian and Papua-New Guinea Divisions, the latter of which we have heard very little. However, we have been informed that a Group may soon be formed in Tasmania and we wish that Division much success in this project.

We also hope to hear of a similar move from the remaining Divisions soon. So if you are interested in the formation of a Group within your Division, why not write to your Divisional Secretary and let him know of your interest? If you do so, it will be taken to the Divisional Council in deciding whether or not a Group will be worthwhile and also give them an idea of what is interested in being taken. The names and addresses of the office-bearers of each Division are published elsewhere in this issue.

#### NEW SOUTH WALES

The only letter received from N.S.W. this month is from Ken Goodhue. Very pleased to hear from you Ken. He requests information as to how he can join a s.w.l. group. This is up to your Division Ken. I suggest you act on my suggestion above. Ken is obtaining a short wave rx which needs some work done on it, so looks like he'll be busy for a while. Hope you get it going O.K. We'll be pleased to hear how you get on.

#### VICTORIA

October Group Meeting.—At this meeting we were pleased to welcome a newcomer, Gill Robinson, who we hope to see more of in the future. The report of the Group President for both the past year's activities and for the Annual State Convention were presented by Ace-Paintent, Michael Ide, and the President, Len Poynter, who was unable to be with us for this meeting. After business was concluded we were presented with a most interesting talk by Michael on fault finding in commercial rx's. This talk was accompanied by a demonstration on an actual faulty set which Michael had been left in his capacity as a suburban

\* Compiled by Ian J. Hunt, WIA-13007, 211 St. George's Road, Northcote, N.16, Vic.

## Wireless Institute of Australia

### Victorian Division

## A.C.P. CLASS

### commences

MONDAY, 3rd FEB., 1958

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—Secretary W.I.A., Victorian Division, 191 Queen Street, Melbourne (Phone: MY 1087) or the Class Manager on either of the above evenings.

serviceman to repair. The lecture proved most interesting and we thank Michael for his efforts. Incidentally, the owner of the faulty receiver sure got his money's worth as the set was gone over with a fine tooth comb. As the lecture was concluded we received a demonstration of 3WI in action, ably operated by our Country Secretary, George, 3WI. Thanks for providing this very interesting item George.

Group Gossip.—The President, Len Poynter, and the Secretary, Geoff Morris, congratulated on the arrival of YL harmonics. These two hearty members were recently seen at one of the Division's general meetings, having apparently talked their way into allowing them a night off from washing the naps, etc., besides the usual Group Meeting night. By all accounts they enjoyed themselves and might try it again soon.

John McCluskey also merits our congrats on having obtained his A.O.L.C.P. Another worthwhile effort recently was that of David Fraser, who by consistent listening was instrumental in aiding in the location of a "pirate" station on the Ham bands. Good work David. Frank Nolan and Geoff Morris are still going strong logging stations as Official Group Reporters, whilst Ian Hunt has increased his country record by working with UPL Etonia and VR8 Pitcairn Is., the latest two.

Plans entertained by some of the members range from the purchase of new crystals and new antennae to the building and buying of bigger, better or more equipment. Max Hilliard is currently constructing beams for 50 and 144 Mc. and is eagerly awaiting the arrival of an Eddystone 880 rx.

#### SOUTH AUSTRALIA

Sept. and Oct. Group Meetings.—The Sept. meeting of the VKS boys took the form of a visit to the Central Telephone Exchange where they had a very interesting time. Thanks go to Jack Halliday for arranging this visit. The Group has shown a slight increase in membership and hope to be able to arrange a full programme of events to stimulate interest in the near future. A recent listening contest held by this Group was won by Denis Greig, to whom we extend our congratulations.

John Campbell is busy studying for exams, and Jim Paris therefore handed on the following information: The Oct. meeting proved most interesting as Doc SMD gave a talk entitled "The Early Days of Amateur Radio in South Australia". He described early tx's and rx's and told of the many difficulties which faced the Ham during the early years, who was preparing to get on the air. The boys thank you very much for your talk Doc OM.

#### DECEMBER MEETINGS

The December meeting of the VKS Group will be held on Tuesday, 10th, when members will combine with the rest of the Division for the Annual Christmas "Do". This is always a popular function and no doubt s.w.l. members will assist efficiently in the disposal of the sumptuous repast provided for the occasion. Thanks for writing and letting us know all about these activities, Jim, and we hope to hear from you again soon.

To return to VKS activities again I would like to ask members as possible to turn up at the December meeting of the Group. This meeting will take the form of an informal get-together and will give all the opportunity to earbash some other poor s.w.l. about your achievements.

I would like to thank all who have made my task easier by contributing to these notes during the past year. May the Christmas Season be one of blessing and peace to all who may read this note. A very Merry Christmas of health, happiness and useful achievement.

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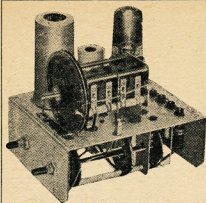


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Tinned Copper Wire—1 lb. reels, in 16, 18 and 20 gauge.  
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List No.	Audio Watts	Max. Sec. RF In.	Current	Overall Size L. W. H.	Weight lb. oz.
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UM3	120	240	250 Ma.	5½ x 5½ x 5½	14 8

Price: UM1 ..... £7/9/9 Inc. Sales Tax  
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# FEDERAL, QSL, and DIVISIONAL NOTES

## FEDERAL

**Fed. President:** W. T. S. Mitchell, VK3UM.  
**Fed. Secretary:** L. D. Bowie, VK3DU, Box 2611W, G.P.O., Melbourne, C1, Vic.  
**Federal Council:**  
 New South Wales—Bob Godsell, VK3AGZ.  
 Victoria—Dave Wardlaw, VK3ADW.  
 Queensland—Arthur Walz, VK4AW.  
 South Australia—Gordon Bowen, VK3U.  
 Western Australia—Ron Hugo, VK6KW.  
 Tasmania—Doug Fisher, VK7AB.  
 Papua-New Guinea—Russ Coleston, VK9CK.  
**Fed. Contest Committee:** Reg Harris, VK3RR.  
**Secretary:** Bob 1234K, G.P.O., Adelaide, S.A.  
**QSL Bureau:** R. E. Jones, VK3JR, 23 Landale Street, Box Hill, E.11, Vic.  
**Awards Manager:** A. G. Weyntun, VK3KU, 5 York Street, Bonbeach, Vic.

## NEW SOUTH WALES

**President:** Perc. Healy, VK2APQ.  
**Secretary:** Keith Woodward, VK2ZAU, Box 1734, G.P.O., Sydney.  
**Meeting Night:** Fourth Friday of each month at Science House, Gloucester Street, Sydney.  
**QSL Bureau:** Box 1734, G.P.O., Sydney. Frank Hine, VK2QL, Manager; assisted by Allan Smith, VK2AL.  
**Zone Correspondents:** North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave, West Kempsey; Newcastle: Les Sparks, VK2AOR, 19 Kahlilab Rd, Highfields, via Adamton; Coalfields and Lakes: H. Hawkins, VK2WY, 2 Comfort Ave, Cessnock; Western: W. Stitt, VK3WV, "Canberra", Forbes; South Coast & Southern: E. Fisher, VK2DY, 2 Oxide St, Warrawong; Sth. Western: J. W. S. Edge, VK2AJO, Wallace St, Coolamon; Tamworth: F. W. Fowler, VK2AFZ, 4 Thompson Cres., Tamworth.

## FEDERAL

### I.G.Y. ACTIVITIES OVERSEAS

As a result of the I.G.Y. many projects of an interesting nature are coming into being. One of the most important stations being operated on behalf of the R.S.G.B. The Postmaster-General has authorised Mr. K. E. Ellis (VK6WV) to establish the station at "Hill Top" in the New England National Park. The call sign allocated to the station is GB3IGY and it will operate on a frequency of 145.5 Mc. using a power of up to 1 kilowatt.

## CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.



**ROSS HULL MEMORIAL—**  
 Bands: 57-54, 56-60, 144-148, 288-296 Mc.  
 Date: 1st December to 31st January.  
 Rules: As published. \* Amendment 50-54 Mc. Scoring on 50-54 Mc. as for 56-60 Mc. Special Award: Greatest distance over 3,000 miles.

**"OK DX CONTEST"—**  
 Date: 8th December, 12 hours—0000-1200 G.M.T.  
 Rules: See this issue "A.R."  
 Bands: 40, 40, 40, 10, 10, and 10 m.  
 Logs: To Box 69, Prague, Czechoslovakia. Postmark 15th Jan., 1958.

**B.E.R.U. (C.W. Contest)—**  
 Date: 25th January to 26th January, '58.  
 Duration: 0001 G.M.T., 25th, to 2359 G.M.T., 26th.  
 Rules: As for 1957.  
 \* Amendment: Sections: High Power, Low Power (23 watts limit); Receiving Section.

## NATIONAL FIELD DAY—

Date: 26th January.

Rules: See this issue "A.R."

## OV MUNICH—

Date: 1st October to 31st December, '57.  
 Bands: All h.f. bands (3-30 Mc.).  
 Purpose: To work as many Munich stations as possible. Stations identified by suffix "C1" and call sign. Example DJ2FB/C12.  
 Rules, Awards, etc.: "CQ" Oct. '57, or Fed. Contest Committee.

## VICTORIA

**President:** F. G. Ball, VK5YS.  
**Secretary:** J. R. Lancaster, VK3UL.  
**Administrative Secretary:** Mrs. May, C.O.R. House, 191 Queen St., Melbourne.  
**Meeting Night:** First Wednesday of each month at the Radio School, Royal Melbourne Technical College.  
**Divisional Sub-Editor:** V. M. Jones, VK3YE, 7 New St., Surrey Hills, E.12.  
**QSL Bureau:** Inwards and Outwards—W.I.A., 191 Queen St., Melbourne, C1, Vic.  
**Zone Correspondents:** Western: W. J. Kinsella, VK3AKW, Magdala, Lubeck; South Western: W. Wines, 48 Cranley St., Warrnambool, and W. Zimmer, VK3AWZ, 20 Skene St., Newtown; Far North Western: M. Folie, VK3GZ, 101 Lemon Ave., Mildura; Midlands: R. Jonsson, VK3ND, Farnsworth St., Castlemaine; North Eastern: L. Ellison, VK3ALE, 72 Orr St., Shepparton; Eastern: J. Spark, VK3AJK, 20 Marshall Ave., Moee.

## QUEENSLAND

**President:** Frank Bond, VK4ZM.  
**Secretary:** W. J. Rafter, VK4PR, Box 638J, G.P.O., Brisbane.  
**Meeting Night:** Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.  
**Divisional Sub-Editor:** A. Simpson, VK4ZAE, Cr. Baden Powell and White Sts., Everton Park.  
**QSL Bureau:** Inwards—J. Files, VK4JF, Vanda St., Buranda; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.  
**Zone Correspondents:** Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

It is also interesting to note that for the period of I.G.Y. the Norwegian Amateurs will be operating on the 50-54 Mc. band. The time of operation will be from 0800 to 1900 G.M.T. daily and emission can be A1, A3 and F3.

**PARIS CONFERENCE 1957**  
 During April 1957 a conference of v.h.f. managers took place in Paris. Delegates came from Great Britain, France, Germany, Italy, Europe and G2MI, Mr. A. O. Milne, attended as Hon. Secretary of the Region 1 Bureau (I.A.R.U.).

Much of interest to v.h.f. operators was discussed; particularly a suggestion from V.E.R.O.N. re using the 144-144.2 Mc. portion of the two metre band. DX After much discussion it was finally decided that the DX portion should be 145.3 to 146 Mc. because this portion of the band is relatively unused.

## FEDERAL QSL BUREAU

Malayan Amateur Radio Transmitters' Society announces the issue of the M.A.R.T.S. DX Certificate to Overseas Associate Members who submit contact evidence of having worked: 10 VS1s, 10 VS2s, 2 VS4s/5s (VS4 and VS5 counted as one area), and 1 ZCS. Cards with three I.R.U. (for return of cards) will be forwarded quoting your membership number to the Awards Manager, Box 777, Kuala Lumpur, Malaya. Overseas membership is worldwide and costs 18/- Australian and entitles the member to "The Malayan Radio Amateur", which is published on alternative months.

The L.A.B.R.E. announce the addition of the following countries to their existing list of 57 for the W.A.A. Award: 88—San Andres and Providencia; 18—CZ—Australia and entitles the member to "The Malayan Radio Amateur", which is published on alternative months.

The Central High School Radio Club of Sioux City, Iowa, advise they will be operating in the State of South Dakota on Nov. 29, 30 and Dec. 1. The call will be WOLN/9. They will use 750w. on 10, 15 and 20 mc bands on c.w. only. They feel this information may be of interest to stations chasing South Dakota for W.A.S. certificate.

Rules governing the International C.W. Contest "OK DX Contest 1957" have been issued. It is the first International Contest organised by the C.C.R.C., Box 69, Prague. The Contest

## SOUTH AUSTRALIA

**President:** W. J. Bulling, VK5KK.  
**Secretary:** B. W. Austin, VK5CA, Box 1234K, G.P.O., Adelaide, Telephone VK 2591.  
**Meeting Night:** Second Tuesday of each month at 17 Wymouth St., Adelaide.  
**P.O. Box:** 44, Gawler, S.A.  
**QSL Bureau:** G. Luxton, VK5RX, 27 Belair Rd. West Mitcham, S.A. (Inwards & Outwards).  
**WESTERN AUSTRALIA**  
**President:** J. R. Elms, VK6BE, Box N1002, G.P.O., Perth, W.A.  
**Meeting Night:** Third Wednesday of each month at Perth Tech College Annex, Mounts Bay Rd.  
**Divisional Sub-Editor:** E. J. R. Cowles, VK6EJ, P.O. Box 11, Bencubbin, W.A.  
**QSL Bureau:** Jim Rumble, VK6RU, Box F318, G.P.O., Perth, W.A. (Inwards and Outwards).

## TASMANIA

**President:** F. J. Evans, VK7FJ.  
**Secretary:** M. Hurbrough, VK7MH, Box 371B, G.P.O., Hobart.  
**Meeting Night:** First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.  
**Divisional Sub-Editor:** W. Watson, VK7VY, 58 Brookier Ave., Moonah.  
**QSL Bureau:** K. A. Johnston, VK7RX, 34 Tower St., Wynyard.

## PAPUA-NEW GUINEA

**President:** F. N. Nolan, VK9FN.  
**Secretary:** N. T. Casey, VK9NT, Box 204, Port Moresby.  
**Divisional Sub-Editor:** R. Clark, P.O. Box 204, Port Moresby.  
**QSL Bureau:** R. Lloyd, VK9ZAL, Box 204, Port Moresby.

commences at 0000 G.M.T., Dec. 8 and ends at 1200 G.M.T. on the same day. Bands permitted are 3.5 through 28 Mc. The usual six digit number is to be exchanged. Entrants may work any country except their own and contacts with CQ are not permitted. Continents worked during the Contest serve as multipliers which are considered separately for each of the five bands making a total multiplier of 30 possible. Three points are awarded for each completed contact (six if with OK). Logs must be sent to the above address and mailed not later than 15th Jan. 1958. An award and the S&S Award are available to competitors. Further details may be had from the Federal and Divisional QSL Bureaux.

KP4AIO is the latest call sign of Jules Wengler, and it is his 10th call sign. Jules was stationed in VK4 during the war and is known to many VK4 Amateurs. He is on 14 Mc. c.w. daily between 1900Z and 1100Z and desires contacts with VK Hams, particularly with Harold VK2AHA. He will QSL all QSOs.

This year's relief vessel for the Antarctica boys is the Thalea Dan instead of the Kista Dan. The vessel is en route to Australia at the moment.

Ted and Virginia Westlake of the U.S. Civil Aviation Administration, San Jose, Costa Rica, who operated T2EBX for a considerable period, advise that their station closed down as of 25th Aug. '57. They have retained the station and hope to be heard under a K3 call shortly.

Cards from CP3EP for contacts in 1956 have recently come to hand. They bear the appearance of having been much handled. Indicative of the tremendous activity of the holder or the call sign, Walter Lanz, the QSO numbers of the cards in this batch range in the 25,000 region.

Had a phone call on Cup Day from John Jones, VK3JJ, operator on the coastal vessel from John Jones seeking information on the whereabouts of Harry Noon, ex(?) VK3EJ, who is alleged to have been a resident of VK3 for a brace of years. Have no record of Harry lifting out a VK3 call sign and apart from the

## SILENT KEY

It is with deep regret that we record the passing of—

VK2CM—Charles Maclurcan.  
 VK5HI—John H. Clifton.



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★

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Glenhughly postal address shown in the Call Book, was reluctantly compelled to give John barred N.

The QSL Manager of the A.R.U.A. (Netherlands) section of the V.E.R.O.N.A., advises that their QSL Bureau address has been changed from Box 80 to Box 362, St. Nicolas, Aruba, New Holland. Cards are to be sent to the following: PJ2A (Aruba is.), PJ2B, I (Bonaire is.), PJ2C (Curacao is.), and PJ2M (Venezuela is.). Also cards can be forwarded for all PJ2 stations.

Austine VK3VYL confirms the already published information that the charge for the W.A.S.M. certificate issued by the S.S.A. has been altered from 10 I.R.C. to 10 Swedish crowns. Other snippets from her interesting note are: RT3S is now VK3VYL; Ted S3A is now GG3V; and the DX DL2A, WJ4DO/KL7 at Cape Prince of Wales, Alaska. Austine was the recipient of a fine memento of the A.R.I.L.Y. Convention held at Chicago, Louisiana, Sand, WSRZJ, sent a programme signed by over 80 YL members who attended. Michel POGAP/M3M also sent her a picture of the Tahiti Mui taken on the day they drifted from Tahiti. Michel hopes to visit VK at some later date on a lecture tour.

Stations who have made six contacts with the Genoa Unit are: R.I. during the recently staged Columbus Marathon are reminded that they are entitled to an "artistic certificate". Claims should be posted by 31st Dec. accompanied by the QSL card to the Genoa stations worked to A.R.I., Casella Postale 347, Genoa, Italy. Further information from the Federal S.S.I. Bureau is required.

Cards returned this Bureau to those who die during October, which indicates that a heavy month during November and December may be expected. It suggests that those hours of listening to the beeps from the assorted Sputniks could be a pleasant change to working DX—and causing the card statistics to rise.

Ray Jones, VK3RJ, Manager.

## NEW SOUTH WALES

On Friday, 25th October, at Science House, Gloucester St., Sydney, the N.S.W. Division held its 10th annual meeting. The evening for the evening, under the title of "A Member Built It", was given by Norm Beard, 2ALJ, and Max Sobels, 2OT. Norm 2ALJ described a construction of a crystal controlled v.h.f. receiver having a crystal locked converter covering 80-84 Mc., 86-80 Mc., 144-148 Mc., and 288-296 Mc. It is a turner's circuit with a 3.5 Mc. crystal for oscillator-multiplier, giving an intermediate frequency which would be fed into a t.v. i.f. strip. This was a rather unusual method of production from commercial equipment for bands not catered for in the usual manner.

Max 2OT described and demonstrated the method of constructing a table-top tx capable of 100w., v.f.o. controlled, covering 80, 40, 20, 15 and 10 mc. The basis for the unit is a AR7 chassis and by reworking the coil boxes enable band changing to be carried out very quickly. The finished tx makes a perfect match for the AR7 rx. Max gave full constructional details and explained how easily the principle of selectivity in tx's could be incorporated to make sure those unwanted harmonics are suppressed.

The note of thanks was given by Lyle 2GW, who expressed the view that this type of lecture was very good and really gave members a better understanding of the principles in the construction of equipment.

To add to the ideas given by the lecturers, Joe 2JR gave details of a transformer he had designed which was suitable for use as a matching device for a single-ended output to a balanced transmission line.

During the presentation of the meeting Bob 2ARG gave an outline of the School of Civil Defence activities he attended at Mt. Macedon, Vic., when the problems of maintaining communications in time of emergency were discussed. Bob urged members to fill in the questionnaire which had been included in the Divisional Bulletin. The importance of communications in the Division's emergency network could be established as this State's C.D. authorities were very interested.

The request that the name of the Wireless Institute's network be altered to W.I.C.E.N. was discussed and the motion to ratify this change was carried unanimously.

Bob also outlined the discussions with F.E. of the W.I.A. and the fact that the report was sent at the International Telecommunication Conference at Geneva in 1959.

Dave 2ED reported on a visit to Gosford he had made to the Divisional President (Pierce 2APQ) and Divisional Councillors Max 2OT and Norm

2ALJ, made to attend the inaugural meeting of the Central Coast Radio Club and Central Coast Section of the N.S.W. Div. W.I.A.

This meeting was well attended and its success seems assured. Some of the office-bearers elected were Mr. R. Dean, M.L.C., Patron; Major 2RU, President; R. Brook, Secretary. Rex 2YA will be in charge of the technical side of the club and will provide the use of class room facilities for A.O.C.P. classes. A total of 22 have already enrolled for the class.

A very successful convention of the South Western Zone was held at Coolamon on 26th and 27th October. Congratulations go to our officer Jim 2AJO and his assistants for a very fine effort. Full details are given elsewhere in this issue.

News from the far North Coast has been scarce of late, but Charlie 2AZK, who has just returned after three weeks at Murwillumbah, reports that he had spent some time assisting a newcomer to Amateur Radio, namely, Eddie 2EB, to re-build his final 807 and modulator, also new antenna. Eddie is now operating on 40, 20 and 15 mc bands. Charlie also visited two other active Amateurs, Bill 2ZY and Norm 2RK, and took the opportunity of attending the marriage ceremony of 2ZY and extended the congratulations of the W.I.A. to Bill and his wife.

Ramsey 2ALJ gave a demonstration of his latest camera from U.S.A., producing finished prints in 15 minutes.

Homeward bound with a stay at Grafton to see the Christmas trees, one can see so much about, are indirectly lighted with fluorescent lights, and to spend a very pleasant evening with Roy 2NY and Bob 2WQ.

It is with a very deep regret that we report the death of Charles 2MCM on Saturday, 26th October. Charles was one of the signatories to the Memorandum and Articles of Association of the Division in 1922 and was well known for his work in the early days of broadcasting in Australia.

His experimental work in Amateur Radio is equally well known and was the subject of conversation when the work done and progress made during the past thirty years is discussed. Recently Charles presented to VK3WI the operating console from his DXK2 which was heard. This is now being installed at the Divisional Station at Dural.

Deep regret extended to Mrs. MacLaurin and family from Council and members of the Division.

## HUNTER BRANCH

A good number of members were present at the October meeting of the Branch held at the usual location, the University of Technology, Newcastle. The meeting was held on 20th and 40 Mc. was discussed at length. Lionel 2CS described an interesting circuit of a harmonic xtal oscillator as developed in the Hunter Branch. Certificates of membership were presented to new members and associates by the Branch President. Officers brought visitors and new club signs to the district and we were very happy to welcome them.

The popular YL operator, Muriel 2AIA, has been holidaying at the Lake, and those two robust and genial ladies, Mary 2AG and Muriel 2AIA, have been entertaining the good lady with lemon drinks and oysters. Hearty congratulations to Mary 2AG for her new pocket and call sign of 2RJ-VJ2 Romey. Julie 2AG could bring in the DX on moonlight nights. The writer remembers when Les got the first practical certificate from the Hunter Branch on Field Day at Anna Bay, with 2AHA/P, 2ASJ, 2SF and our late friend, Ivan 2IS.

We have gained a well known and popular Harry in the person of Frank 2ZAG/2AG mobile who is now totting in Newcastle. Congrats to Harry 2AFA who has 100 counties confirmed. Harry is waiting for a few extras before sending his D.C. to Dr. D. and has had modulator trouble. Quite a bit of 20 and 40 mc activity from Varley 2SF.

Harold 2AHA was well to the fore among VKs who were "cragging of Spunners", and was one of those who had the D.C. to Dr. D. "The man in the moon!" 2ASJ heard that howler, too. Dave 2SB appeared briefly on 7 mc. to discuss holiday plans with his pals, 2ADT and 2ZX.

New member, Gordon 2CI, has returned from a trip to the North West where he visited Ben 2AR. Rumour has it that Allan 2ST is selling his gear and taking up photography which is a far worse disease. Shame on him.

The D.C. to Dr. D. will be held at University of Technology, Tighes Hill, at 8 p.m. on 13th December.

Listen for latest news of Branch activity at 8 p.m. every Friday night from 2AWX on or about 7140 Kc.

## OBITUARY

CHARLES MACLAURIN, VK3CM

It was with a deep regret that we record the death on 26th October of Charles MacLaurin, VK3CM.

Charles was one of the Pioneers of Radio in this country. These are a few memories of the VK3CM received from Joe Reed, VK3JH, who, over the years was closely associated with Charles.

Charles MacLaurin commenced operation in the spark days with a transmitter and receiver located on the roof of the Wentworth Hotel. For many years the tall wooden mast on top of the hotel with its top in the shape of a cross was a familiar sight to the "oldtimers". This transmitting station operated several years before the 1914 war.

Charles was foundation member of the Wireless Institute of N.S.W., formed in 1918. His interest blossomed into the commercial field by the formation of the "MacLaurin and Lane" Co., who handled a wonderful range of spark, transmitter units, crystal receivers and even the early three electrode Audion valve as marketed by Hugo Grunback's Electro Importing Co. of New York. Charles was a member of the Radio Institute of N.S.W. and the MacLaurin and Lane catalogue of 1912 vintage.

Immediately after the cessation of hostilities in 1918, Charles was one of the first experimenters to get "on-the-air" and in consequence, Charles helped to build the little and famous ten watt transmitter which on 6th March, 1922, carried out two-way communication with myself, located at the P.M.G. Radio Service Station at Wynnum House, Melbourne. The Sydney transmitter operated on 1350 metres, and the Melbourne station, 2900 metres. Charles 2MCM then handled the first "DX" third party traffic between experimental stations in Australia, for over the circuit I requested Charles to ring my parents in New York. I informed them that I would be returning to Sydney in a week's time, consequent on the takeover of the P.M.G. Radio Service by A.N.A.

Very soon after my return to Sydney work was commenced on fitting the 3CM transmitter with modulation and before the completion of the work, I had installed this little station was heard regularly on Sunday nights, broadcasting music and entertainment, even to the extent of having advance programme publications in the Sunday papers. The amusing announcements, "This is Station 3CM, broadcasting from Sydney on 1350 metres, and I beg to inform you, 'Now don't forget to wind up the cat and put out the clock', to be followed by the National Anthem.

Rapid strides were made following the early experiments on ten watts and 1350 metres. In 1923 a fifty watt was hatched to a 16 ft. quarter wave vertical radiator and contact made with G20D (Mr. Simmonds), of London. Once on the move with power, the next step was with a 250 watt tube on 200 metres with which signals were sent to the P.M.G. Radio Service, and also to the P.M.G. Radio Service, and also to the P.M.G. Radio Service. To give the wrist a little rest a metal disc was cut with the letters MOTT and the letters MOTT were placed on the gramophone for keying of the transmitter. Two-way contact was established. In later years examination of sunset cycles showed that there was an excellent period helped greatly in these transmissions.

When the first crystal controlled transmitters came into favour, Charles was well forewarned. He well before 1928 had a long line of frequency multipliers to handle the relatively low frequency pieces of quartz then available.

In later years at Shell Cove Road, Neutral Bay, Charles had a G2GP rotor erected on the roof of the MacLaurin mansions. The lengths of the horizontal elements were 100 ft. long. The top of the chimney pole, so Charles used up the ends like buffalo horns and proceeded to bowl over the DX.

Towards the end of his most interesting life, Charles lived to be 80 and only a few weeks before his passing away, he could be heard in contact with VKs 2HC, 2JN and 2VJ in "oldsters" who were so shortly after would gather for the last sad and solemn rites which must come to us all in the end.

Deepest sympathy is extended to Mrs. MacLaurin and to members of the Wireless Institute of Australia.

## SOUTH WESTERN ZONE

Our main item of news this month is of course the Pile-Up held at Colson on 26th-27th October. Once again a very successful Convention has been held. Made possible by the members who attended from very widely distributed areas, both in and out of the zone. My very great thanks to all who attended.

On Saturday afternoon members who had arrived were registered, the first visitors to the Pile-Up were Mr. Jim and Ruth Corbin. Your scribe then showed those present our new town centre—the swimming pool—where very favourable comments were passed. After-noon tea was then served. This was followed by the first 144 tx hunt (1st 22AA, 2nd 2PNI). At 6 o'clock Dinner was served in the R.S.I. Hall, by the Colman Presbyterians Ladies, who as usual did an excellent job. At the conclusion of Dinner, your scribe, as Chairman, welcomed the visitors, read apologies, and then called on the President of the N.S.W. Division, Pierce 2APQ, to officially open the Convention. During the opening, we heard of the passing of our fellow Amateur VK3CM, where all stood and observed 20 minutes' silence in memory of Charles.

The Chairman then called on Stewart 2PL to reply to the President. Stewart did so very ably. The Chairman then called on Mr. Kingden, of the local Press, who replied as an outsider, and made comments on the part played in emergencies by Amateur operators. The evening was very proud to be associated at Dinner with Ham operators and was very interested in the President's remarks regarding W.I.C.E.N.

A Ham's Amateur Hour was then held and all stated that it was a good show. All competitors received a prize: Stewart ("Waggoner") Savage, 2PL, being the winner. Films were then shown by Mr. O. E. Mutton, our guest for the evening, which were interspersed by feats of magic performed by Harry James, of Griffith. At the conclusion of the programme supper was served. I think all had a good time.

Sunday commenced with the Scramble, the winner being Ross 2PN, second Stewart 2PL who won on a "count back" from Bob 2XP of Dalton. The 144 tx hunt was again won by Keith 2ZL, Geoff 2BQ second. The "Hunters" commented that they were fooled for a time in our flat country. The 2VI official broadcast was conducted from 2AJO's shack, the President, Pierce 2APQ, on the mike.

The afternoon events commenced with the blindfold tx hunt and much amusement was caused by the winning of the gent's event was John 2NV of Griffith. The ladies' event went to Mrs. 2AJO, with Miss Druitt of Griffith, second. The 2VI was then auctioned, the boys collecting the usual junk.

Afternoon tea was the final item on the programme and afterwards cars were loaded up, farewells given and, regretfully, watched our mates leaving for their respective destinations, as far afield as Gosford, Sydney, Gundagai, Albury, Tumut, Hillston, Griffith, Wagga, Deniliquin, Canberra and Dubbo. Ap. approx. 60 members, XYLS, and harmonics attended.

In conclusion, I must say that the success of the Convention was due mainly to the efforts of Assoc. Members Jack Ashley, Treasurer Stan Abbey (my Jack of All Trades) always at hand, Alan's mother and my good wife, for their efforts. Conventions are easily arranged with such helpers. Once again thanking all who attended, and looking forward to seeing you all again, at next year's South Western Zone Convention.—2AJO.

## VICTORIA

Some months ago mention was made in these notes of the excellent lectures we have been privileged to hear month by month at our monthly meetings. Since then there have been many more and on 6th November there was yet another when the Rev. Bro. V. McKenna welcomed us to the inner workings of the cyclotron and associated machines, but he also took us to the University and introduced us to the C.E. 1131, this machine, combining with electrons, protons and neutrons sounded disarmingly simple in the hands of the speaker, but now the speaker has put things to paper, I find I have been lulled into a sense of false security, hi!

Our formal thanks were presented to Bro. McKenna at the last meeting, but the opportunity did not arise to thank him and his colleagues for the trouble they went to in ensuring that we saw all that was to be seen of these machines they use in this somewhat dangerous bullet-firing occupation and the digital computer which helps them to come up with lots of their answers. Many thanks chaps for a most informative evening. Your efforts were fully appreciated.

The general meeting held prior to the lecture regarding the usual business of the zone and the following new members were admitted: Full Members—J. G. Goodall, 3ZBG; L. R. Schulz, 3ASA; Associates—B. R. Wilson, G. Weber, H. Schmidt, G. Robinson, D. McKenzie, W. McFarlane, J. Cunningham, J. Anderson, J. A. Moore.

About 60 attended the meeting including VRSB from Fanning Island, who until recently was very active on 14 Mc. from that location. He informed us that the chief activity on the island is copra growing but his interest, apart from Ham Radio, was in the cable news station in the Vancouver to Fiji link which is also on the island. The population is only about 20 whites and 200 natives, but there is no QRM and DX rolls in 24 hours per day. This news could lead to a mass migration of DX hounds, I guess.

With all the recent excitement over "Spunkies" it was very gratifying to note that the Ham participation in recording data on these upstarters was well to the fore in the press. This was due entirely to the untiring efforts and team work of the members of the fraternity who participate. It illustrates once again that the Amateur is ready and willing to fill the breach when need arises.

A motion congratulating the W.I.A. on its commendable efforts in handling this matter, both from the technical and the publicity point of view, was put to the meeting and carried unanimously.

Council would like it known that they are endeavouring to build up the library so that more than one copy of the various publications will be available for issue. If you have a spare copy of "QST", "CQ", "CQ.S.G.B.", "Bulletin", "Short Wave Magazine", etc., which you would care to contribute for this purpose, would you please forward them to the rooms. If desired, donations from the metropolitan area can be collected by arrangement with Mrs. May at the rooms, and country contributions may be sent G.O.P.

Recently a certain gentleman sallied forth complete with black box to take a look at the field pattern of the newest antenna. During his perambulations he was mistaken for an undesirable character by an observant neighbor, and ere long was on his way to the local constabulary per prowl car a 124. Moral, if you have a heavy antenna, be sensible and confine your tests to your own back yard. It could happen again.

In accordance with usual custom the December meeting of the Victorian Division will be held on the 4th, will be a social and a children's night, same time, same place, so bring along the boys, XYLS and harmonics and make it a bumper night.

There will be no general meeting in January so the first meeting in 1958 will be on 5th February.

Christmas Greetings and a Prosperous New Year to all. See you next year.

## SOUTH WESTERN ZONE AS HOSTS TO STATE CONVENTION

The 6th State Convention was held at Colac on 8th and 10th November. About 100 Amateur Operators met at the home of Gordon 3AGV, whose XYLY kindly provided us with afternoon tea. So you Mrs. Vincent, our sincere thanks. The boys working mobile on 144 Mc. were well catered for as 3AGV worked all who were on this band.

The Convention was officially opened before the Dinner by the Mayor of Colac, Cr. Mr. Lennon who welcomed all participants to Colac. The Dinner, which was excellently catered for, followed. After dinner the meeting took place and many and various things were discussed including the next South Western Zone convention which is to be held in Warrnambool on a date to be fixed in March. Sure to be served on completion of the meeting.

Sunday's programme commenced with visits to the shacks of the local Hams. At 10.30 a.m. the 144 Mc. hidden transmitter hunt was held, but the tx gave some trouble and was taken off the air. It was later located by Jack 2AJK from Moe who won the prize. Later Chris 3AXU conducted a tour of the local broadcasting station 3CS and also displayed great essential to b.c. stations and demonstrated same.

After lunch the 3.5 Mc. hidden tx hunt took place, but I was unable to display the winner's identity. We returned to the Gardens for the 40 mx scramble, games and competitions or the ladies were also held. The winner of the nail driving contest was 3APR's XYLY, Mrs. Hallyburton. The sack race was won by a Dutch girl, name unknown. The lucky programme was won by Mrs. Phil Mounier and the men's by Bill 3AWZ. A prize was awarded to David Scott for the Ham travelling the longest distance to attend—David covered 252 miles.

We are pleased to announce that once again the S.W. Zone has been awarded the Kinnear Trophy, making it our third win. The actual attendance at the Convention was gratifying, approx. 100 in all.

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Now last, but by no means least, we owe the wonderful success of this Convention to Chris 3AKU, Gordon 3AGV, Mart 3AKU, Ron 3KX and all others who assisted in one way or another. Particularly, Mrs. Vincent, Mrs. Cullinan, Mrs. Blackney and all the ladies who put on a class for the kids. Many thanks to the Geelong boys for entertaining the kiddies, etc.

**EASTERN ZONE**  
 Interest was very high during the month, tracking and listening to the two Russian satellites, which were seen and heard by most of the gang. Ideal conditions on v.h.f. gave Gordon 3AV and Reg 3ZCR a good contact over difficult terrain. Between them, Stan 3ZAB who is thinking about putting a tower up worked into Melbourne, and George 3ZCG who has a new 100w tube array up, worked 3ZAB at Mt. Gambier. All contacts were made in the two metre band. Most of the boys are now getting equipped for 6 mhz.

Bert 3BD recently had trouble with one of his legs which curtails his activities considerably. Take it easy Bert. We all hope you will be your old self again as soon as possible. Ian 3AV had had luck recently in transportation of the rig, but fell out of the utility. The explosion of the 813 could be heard quite well. The fox hunts are still being had the last Sunday of each month, and the attendances are growing. Would welcome visitors from any other zone, if they can make it over the summer months.

**MOORABBIN AND DISTRICT RADIO CLUB**

Leading news of the month for all VK3s is that the Club has decided that in future only active contact with Club member stations will be necessary for DX station membership. Certificate of honorary membership. So let your DX contacts know this when they inquire. Active contact with DX stations need fourteen contacts for this certificate.

At our October meeting we welcomed as a new member Reg, formerly TWN, now 3AIO. Reg is a very active member. He has a 100w Reg! At the same evening we had an excellent lecture by Jacques 3ZEE on the very topical subject of tracking the "Satellite". It was one of the best for some time. Thanks once again, Jacques!

Now the most important forthcoming event we brought to your attention:

Our picnic is on Sunday, December 1st. Our annual picnic in December. Sunday the eighth it will be on, at the picnic grounds at Mornington. At twelve o'clock we'll go to the picnic. Join us at lunch in the open air. It's better when the food's home-made, and the sun is shining and the air is old. What was that word that I did hear? Well—bring your own if you want beer! After lunch our sports we'll hold, and fun and games for the young and old. When you've eaten up our sweets and ices, We'll leave you to your own devices. We'll sing and play the games are grey, Come along and let's be gay. All of you, Hams, Kids and Mum, To our picnic you must come!

**QUEENSLAND**

Unfortunately, due to an oversight of our Divisional secretary, who on annual holidays, the "A.R." notes were not forwarded in time for publication. At the time, our scribe and John 4FV were visiting the Blacklacks Park Convention, and Newcastle, and enjoying the VK2 hospitality to the full. Many thanks for having us, fellows! Anyway John brought back several prizes, and we would like to see some of the VK2 boys at the Convention next year. Take a few trophies back home, too! What about it, boys?

Since our Federal President, Mr. Bill Mitchell visited us we have had quite a bit of organising to do as the end of the year activities fall rather closely together. Of recent interest several prizes and trophies were presented the last week in November. There was a fixed working station, similarly manned as was the rig in the Hobart Exhibition last year. Voluntary for operating the station on a roster basis were called for at the November general meeting. All the different facets of the radio Amateur from the "bug" gets him until he becomes a seasoned licensee were presented as fully as possible. The whole exhibition was built around the Amateur display, and our scribe and I were pleased to play our part, by making it a really good show!

The ballot for the 100 bundles of tubes has been drawn. As we received only 100 names, we were able to draw the tubes during the drawing on receipt of the necessary remittance. It will

be taken for granted that anyone who does not send in for his tubes within a fortnight of receiving October's "QTC" wishes to forfeit. Don't delay. Contact the Secretary immediately.

We now have circuit copies (two photostat sheets) of the v.h.f. transceivers that were built at some time ago, and some of the component values are listed. Contact Alan 4ZAE or the Secretary for your copies. The ballot also for the 100w. tx (c.w.) was drawn and Harry 4HB was the successful applicant.

Also of considerable interest is the disposal of nine 100w. tx's, 200 w. tx's, 200 w. modulators, 18 Mc. The final uses are an 813, 200 w. modulators. These units are without valves or crystals. Nevertheless, they are considered the bargain of the year. The units are sold with a manual with each unit. The ballot for these tx's closed on 4th Nov. and was drawn at the November general meeting.

Jim 4CB, our Treasurer, suggested after a discussion with the Auditor, that a stocktake of all Divisional equipment be made. A committee is to be set up to investigate all Divisional property and report on it to be made to Council. Jim also approached the Commonwealth Bank and now no exchange is necessary. However, the bank is not interested in paying to the Institute (Qld. Division). Good work, Jim. Keep it up.

Paul 4VS, our Librarian, has a considerable surplus of books. A copy of "CQ" and "QST" Council directed that these be sold in bundles of five for a nominal fee. There is a lot of good reading material in these magazines, so send in your request promptly, as these won't last long. Council is also considering a recommendation sent in by Clive 4CC: It is quite evident by the text of Clive's letter that considerable effort went into the set of rules which pertain to general meeting procedure and conduct, and that to commend Clive for not only his interest, but also the personal effort that went into the preparation of such a comprehensive report.

Francis 4ZM, Moderator, and Jim 4PR, our Secretary, were both present at the opening of the A.O.C.P. classes conducted by Stan 4SA at his QTH. There were 17 student members present and the present and past President, mobile contact with John 4FP who was lost in the wilds of Newcastle (for those interested, John is interested in a safe landing) by one of the locals, Bill 2XT. It was already shown that a high standard of work and a friendly hand to the students is the policy of the Division. Stan, as a class manager, is a "natural".

It was made known by our President at the last general meeting that information from the Federal Convention is contained in a heavy folioleap size file presented in book form. We have three copies and information on any particular Convention subject may be had through the usual channels. At present, for the benefit of the country Amateurs, the report is being read in instalments by Bert each Sunday over 4WL. At the last general meeting Bert requested that any information on any of the Russian satellites be sent as V messages, has accordingly asked for Divisional co-operation in this regard.

We were also given a resume of the C.D.E.N. school at Mt. Macedon, Vic., by Vince 4VJ and Evan 4EF; they were both able to give the very latest information on the school, and policy concerning C.D.E.N. The school presented a broad survey of all the communication facilities in Australia. It is to be appreciated that the school is, in terms of atomic warfare, that of one small link. In fact it represents a little more than 1% of all available communications in Australia today. However, any link, however small, is to be highly valued and the value of an Amateur, as was pointed out by a member recently, lies in the fact that—

- (a) He was on the spot, and
- (b) He was to be found throughout the

This combination will always provide, when all else fails, a comprehensive radio network. The State Public Service in Queensland on an unusual basis has asked for the assistance of the Amateur community in order to secure for the benefit of Amateurs, experience and information in civil defence operations. Needless to say, if you want to read between the lines, the Amateur emergency network run may involve other services, so be on your toes! We are very grateful to all available communications and to all the other boys who have attended the C.D.E.N. school, for making the long trip south and unselfishly giving up a great deal of their time.

It is with regret that we recently learned of the bereavement of Mrs. 4TX. I know that all those who knew her will be glad to read of her and her family's sincere condolences.

Council would like you to bear in mind, as Xmas draws near, that the Annual Xmas Party will again be held at Anzac House on the second Saturday in December at 6.30 p.m. There will be plenty of food, plenty of drink and plenty of everyone's liking. A varied program has been arranged, so how about making the effort to see the fun in the evening? Details will be released in the next "QTC". The other year draws to a close, Council would like to wish each and every Ham a Very Merry Xmas and a Happy New Year.

**TOWNVILLE**

Quite a number of visitors turned up to the club on the 10th in conjunction with the monthly meeting. The P.M.G. Dept. was represented by technical engineers and the Radio Inspectors. After the usual meeting business a proposal of the President was formed all of the impending visit of Evan 4EF who will visit the north and will be happy to address the members on Civil Defence Emergency Net. The P.M.G. Dept. was to hold a special meeting on Thursday, 7th Nov. to give members an opportunity to meet Evan and hear about the C.D.E.N. program.

Very happy to hear that Pat O'Brien, from the R.A.A.F., was successful in obtaining a call sign; he will be a welcome addition to the 144 Mc. hook-up. Bob 4MF has his tower erected and is now working on the 144 Mc. QRM to 4EJ, 4DD and 4BE on 10 mhz. Bob is just itching to get around the European scramble. Eddie 4WH seems to have foreseen Ham radio's future. He has a plan that will shell out no disposal gear in that line.

Vern 4LK competing with Bob 4NG to see how many contacts can be held with Japan on 10 mhz. Since the allocation of this band for I.G.V. period, this has spurred the Tville boys and Rex 4LE, Alan 4BE, Len 4GP and even John 4DD to get their gear going on the band. Basil 4LD is off to Japan period again and is re-building the rig and gives the usual Amateur saying. It is to be commended that John 4DD is in 4DK heard beeps from the satellite at John 4DE after locating the proper frequency. Eric 4EC called on many northern Amateurs during his brief stay.

Norm 9NT again on transfer, this time to Rabaul—the home of the "Quads". Will be happy to report 9GP came in on the early morning 7 Mc. hook-up a few times after long absence to give the air. Andy 4BW up each morning to give the time tick for 7 a.m. on 10 mhz. Harry 4EJ has been heard on QSO with Andy. All fellows are satellite happy for a few mornings and some managed to see it in the evenings. Alex 4MA has a new 813 and a new antenna. The rig is good but complains of high noise level due to passing a.c. lines. (Come down my way sometime and I'll show you a few noise busters). Graham 4DJ heard working 4TK and 4MA on 10 mhz. He is doing a lot of re-building also. Vic 4BJ got a lot of ragging over his "beaut" super power regu 7 a.m. 7 Mc. hook-up.

Bob 4TK has only the final stage to be completed on his new rig. Bob Fitzsimmons, second op. at 4BW, facin' the barrier next exam. Good one Arthur 4FE, on Thursday Island, heard asking for a 100w. rig. Boy for 4 gallon drum of rain water. Will Arthur get the C.S.I.R.O. boys up? After their seeding of the 144 Mc. band, a little rain would do. Five inches of rain this week at this QTH. Many thanks to Bob 4TK in supplying a few notes for the column.

**MARYBOROUGH**

4CB getting plenty of DX on ten with his quad. Latest new country—4 TF, which was also worked by 4ED 4AR, has installed a 200 w. rig and has a direction indicator on the front of his table-top rig. Has heard channel 2 sound from Melbourne a few times. 4DJ is getting into the Edmonds and the new radio rics. Soon hopes to have a quad on 10 mhz. Is operating on 7, 14, 21 and 28 Mc. The three element 14 Mc. beam is being taken down after two years faithful service. A new element 4Z4U is about to go up. Noel Dignell, from Seams, sat for the theory section of the A.O.C.P. Good luck Noel.

**SOUTH AUSTRALIA**

When President John 5KX opened our last meeting he had a very large number of members to welcome, very good that, for it indicates the programme committee are pleasing many of our members. The program also looks good for future membership. An extra hand-clap went to "Mac" SCE from Whyalva, who has been "heard" a fair bit but not seen often.



## UNIVERSAL MEASURING BRIDGE

- Simplicity of operation.
- Magic eye indicator cannot be damaged by overload or wrong connections.
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**Capacitance Range:**  
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**Inductance Range:**  
Comparative measurements  
above 1mH.

**Comparative Measurements:**  
Ratio 0.1 to 10.0 with switch on "EXT".  
Ratio 0.8 to 1.25 with range switch on  
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**Finish:**  
Case: Twillight-blue dimenso.  
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Phone: 43-191.

The lecturer for the evening was Bob Roper, 6PU, who got under way quickly with a very fine program on "Noise in Receivers." Bob really did a superb job, and proved himself an able lecturer, many present availing his ability to speak at length without reference to notes.

Large charts were used to illustrate the various points as they were made in his very well organized discourse. Our old friend, Alan G. H. (official name, Chief Engineer, I think he performed with his customary savoir-fair). Bob explained how receiver noise could be divided into two main categories, i.e. internal and external noise, and he dealt with the various merits of triode versus pentode r.f. stages in noise control and outlined how the frequency of the noise varies as any receiver governed the amount of noise.

The popular types of noise limiters next came for review and description, and then to a great most of us up-to-date with something a little new, he introduced the concept of spectrum or "image" noise. We all have at times been bothered by the "second spot" type of interference in our receivers, whereby a signal distant twice the i.f. frequency away rides in on the channel to which we are listening. We know that this is due to the fact that, although there may be absence of signal at the image frequency, there could very likely be noise.

This condition could be very prevalent on the higher frequencies particularly with cascade front ends. The solution here appeared to be in the use of circuits with their inherent higher selectivity.

The reception of Bob's lecture was evident from the attentive assembly and ably expressed in happy remarks by Bruce 6RZ who proposed the vote of thanks by congratulating the speaker on delivering his lecture so well, that we were all raised to his own standard of excellence. [That sounded good but few of us had our doubts as ever reaching Bob's standard.]

Smoke and distribution of QSL cards provided an interval prior to the conduct of the formal business of the evening. Twelve applications to the Association for membership were being a clear indication that Norm Colman has been active in getting signatures on the application form. It is interesting to note that he is most often seen these days with a bundle of application forms in one hand and a ball point pen in the other, and his greeting always "Sign up, sign up."

On yes, Norm is busy signing up new members for the forthcoming A.O.C.P. class, still a few days away. He is also busy signing up so many of you who are thinking about it, now is the time to get in at the start of another series, otherwise it will mean at least 12 months to wait for you.

The January Picnic, as advised before, is to be held at Tea Tree Gully this year, and the picnic committee are anxious that it be to your liking, so if you have any bright ideas that you think will help the organizing of it, pass them on to SJO, SLL, SMZ, or Norm. Remember if it is a picnic, it must be a success, and of course don't let any other engagement prevent your attendance.

For those of you who play that dust chested game of pool, you will be interested to hear SDF. Yes, you have the figure Wal, but don't let it keep you off the air. Tell us how near you are to Kitty, it will add still another variation.

The recent tests by the W.I.C.E.N. boys was most interesting and gave a good idea of what you can do with a 20 mc. transmitter. It being one of the vital things noted, and in some cases some modification to gear was indicated. The committee responsible should feel satisfied with progress, and whilst we all hope the emergency net will not be required, passed to know we have the system there in a workable condition.

Your scribbles has been perigrinating somewhere for a while, and we have been able to lean on information gained via Les 5AX, Col 8RO, and a few contacts made whilst your credit is given to them for keeping me posted.

We end this month with a touch of sadness in expressing our sympathy to the "Fifties Family" in the absence of John 6ZL, as you all know, was a very keen 20 mc DX man, and lastly our thoughts go to Bob 5OD, who, whilst in the U.S., was killed instantly, and his wife, who whilst in the U.S. was killed instantly and he suffered severe injuries from which it is feared some permanent disability will result. The loss of John and Bob is a great loss of sight. Let us hope that Bob's condition will improve beyond present indications and that he will be able to carry on his wonderful work.

## WESTERN AUSTRALIA

At the regional meeting on 15th October the programme included travel films, which included scenes from Harvey, W.A., and also a playback of a recording by 6BE of a summary of the work of the 6000 ft. balloon which carried the satellite No. 1. A tape was also played containing signals recorded from the satellite on 20 Mc and the later continuous note on 40 Mc, also a short recording showing a heavy flutter due possibly to peculiar conditions at the time. At times the satellite was QRMED by Honolulu work. The signals were quite strong, and those recorded were picked up on an 80 mc dipole, fed straight into a converter.

The Divisional Secretary, Bob 6BE, is shortly due on his long service leave, so a temporary secretary will be needed to take over his duties. Bob will be off duty until August. He hopes to do plenty of listening on 50 Mc., having got gear going on the band, and is now busy making a beam.

6FM, of Meekatharra, has recently been heard using a 10 m. set (on 40 mX) to good effect, putting in really good signals.

The 40 mX Scramble was won by 6CL with 29 points. Ian will be presented with the trophy. The President at the Xmas meeting: Good work Ian!

C.D.E.N., now to be known as W.I.C.E.N. (Western Australian Emergency Network), is gradually taking shape. VKA, a committee, has been formed as follows: 6MK (State Co-ordinator and Chairman), with 6RU, 6BE, 6KW and 6CD as District Co-ordinators. The alphabet are being obtained and will be forwarded to all concerned when they arrive.

Since the formation of the group by 6VU on Wednesday nights at 8 o'clock on the 3.5 Mc. band, these transmissions have been found of great assistance to learners, especially those who were not able to find a station. It is somewhat difficult to find a "sparring partner" with whom to practice the code.

1957 has certainly been an eventful year in radio, and 1958 should be a year of interest in all concerned with Amateur Radio.

The President and all members of the Council in VKG join in wishing all readers a Happy Xmas and best wishes for the New Year. Whatever sphere of Amateur activity in which you are engaged during the coming year.

## TASMANIA

We haven't actually been hibernating in the South. To be briefly backwards through what has been happening, our November meeting was treated to a very fine lecture on the problems and possibilities of satellite stations, delivered by 7KM whose everyday work—we assume that it does look like work in the future—has been in the Physics Department of the University. On the long-term project TLE had on display a complete range of pen-recordings, giving a clear picture of signals from the two objects which have lately been costing us the sleep of the just.

Further back, but by no means forgotten, was a visit to Cadbury's at Claremont, who kindly arranged for a radio room for the evening so that members could see the Holleirith and other accounting machinery put through its paces. The radio room, which comes in for a variety of lines and quantities in the usual written form, after which things begin to happen rather rapidly. A girl makes a note of the order, and then the order is inserted at the same time to supply standing information—your name, what's called—and then, at the tidy clip of 100 cards per minute, the process goes automatically right through the final typed statement, addressed, discounted, and ready for the printer's hands. Concerned, and particularly to TRX, for an interesting evening.

We were fortunate to have Dr. Grote Reber in the room just before he departed home toward for the U.S.A. The Doc became well-known to us in the couple of years he has spent in Hobart as a research project which had mostly to do (we think) with low and medium-frequency radiations from outer space. The Doc is of an somewhat different type of element array held up by convenient lifts and cut for something below 500 Kc. This lecture, like 7KM's, was taped for the benefit of the other members, so that was the occasion.

With 7JB back in the fold, a not-so-warm recruit, is gained for W.I.C.E.N., the VK7 portion of which now convenes at 2030 Sunday 7B will be in the fold, and will be the big modulation on 144 Mc., and has also completed a nice steel cabinet to house the whole lot, and will be ready to go. The VK7 modulation, on the other hand, has for the

present packed up completely. VKA is quietly putting JGA's figures into concrete form with tower foundations, and these shouldn't be far off Peter Geoff's practice on the State's hydro towers.

With so much of the extraordinary in the new year, it is a pity that the old year should be so thoroughly enjoyable Christmas.

## NORTH WESTERN ZONE

Would anyone finding a spear fisherman's gun along the N.W. coast please return to Associate David Searle. Any fish attached may be kept. Associate Ken Browne is still sticking to the low floor of the band and has taken to building hi-fi amps. Keep away from 147 7SF and Roy TRN, Ken, or you won't have a good time. Dennis 6ZL is back in the Tongs of Ulverstone, gained distinction and nearly extinction recently by turning his car over on the Bass Highway. It is understood that Terry was chasing a radio signal at the time.

Roy TRN has headed for the v.h.f. and is currently constructing a i.v. rx. Enthusiasm must be contagious. Roy apparently caught the bug from 7SF who has been receiving good signals since the weather improved. Jim 7FO has been working on the band and has been able to see a full programme till close down time late in October.

Bob 6ZL, of the C.W.Y.L. Nathalie, had trouble starting the car whilst shopping. Told the mechanic, "There is either something wrong with the car, or with me." He then hopped into the car which started first pull on the starter. "Must be you, madam!" he remarked. Dennis also had Lance 5ZA as a visitor recently, and he is a radio addict. Australia and likes the late night shift.

Heavens above! Two satellites and an eclipse of the moon. What more do we want to give them something to do. One southern Ham, Doug 7AB, even got up at 2 a.m. to see Sputnik II. Good luck to you Doug.

Don't forget the test on 1st Dec. Be it. If you haven't got a tx with a loop, hitch a ride with someone who has. President Sid 7SF is in charge of the tx, having won the last year.

Our Secretary Max Ives is on annual leave at the moment, so hope the weather holds out for him. He is a very good fellow, and will be able to put a mobile rig in the van. Leon 7JP has acquired an AMR300 and is doing something to the front end which should make it really good. Kyles McGinnis at Naracoorte sat for his horse during October and was awaiting confirmation of his call sign last night. Another member for the month is Al. At the end of the year, next year, you have a Happy Christmas for 1957 and don't book any rocket seats for the moon till 1958.

## PAPUA—NEW GUINEA

There was a poor attendance at the last meeting which was disappointing, but it was thought that a larger number will turn up next month.

Reg 92AL has left us and will be taking up residence in Victoria. The new QSL Manager is now Doug 8SB. Our YL has received her call which is 92AL. We hope to hear you on the air soon. Russ 8XK is working 50 Mc. every night and can be heard on the air. The v.h.f. gang will give him a call and cheer him up. He has been trying so hard for so long that his face is looking the same way. Never mind, Russ, you will be lucky some night.

The Sunday hook-up has not been very heartening lately with no replies being heard. Maybe it is the conditions or do you think a change in frequency is required. Reports from the Rabaul boys on his matter would be appreciated because it is the only time we can all get together. It is a pity that the Institute and the only way those outside Morobe can give their opinions and learn what is going on. The I.A.A. does not mean the fact in Morobe, but in the Territory, including Norfolk and Cocos-Keeling Islands and these members should be given the opportunity to do so.

The Division wishes to thank the retired Secretary, Norm RNT for his untiring and devoted service during his long stay with us. It is a pity that the matter where Norm is, he has the Institute at heart. Best of luck in your new job Norm.

We would like to remind members that the next meeting will be held on 26th December at the Boroko Hotel—whack-o. I wish all the members a very Merry Christmas and a Bright and Prosperous New Year.



## CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

### ASSISTANCE APPRECIATED

Editor "A.R.," Dear Sir,

I wish to express my sincere thanks to those Amateurs who assisted so magnificently with the collecting of data on "Sputnik I and II. The organisers of the "Moonwatch Project" in Australia were astounded at the way in which the Radio Amateurs throughout Australia organised the returns of reports so rapidly and reliably in the early stages of the launching.

Without the co-operation of the Divisions, either individually or through the Divisional stations, together with VK3WIA (who our most able Federal Secretary), VK3WJ could have achieved very little.

It was my good fortune to be representing the W.I.A. on the Moonwatch Committee and hence it fell to me to collate the data received and to release it to the Press. I take no credit, but feel exceedingly gratified that the Radio Amateur has shown once again that he is "Public Spirited", in a very practical way.

—Gordon M. Bowen, VK3XU.

### ERRATUM

In the Balance Sheet of the W.I.A. which appeared on page 13 of the last issue an error appears under Current Assets. No. 1 A/c. of the Commonwealth Trading Bank should read £26/12/8.

## HAMADS

1/- per line, minimum 3/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 6th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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**SELL:** Receiver AR7, modified. A. Elliott, 31 Fenton St., Ascot Vale, Vic., FU 1580.

**SELL:** Three FS6 and one 109 Mk. II. Power Supplies, £5 lot. A.S. Mathers, 14 William St., Singleton, N.S.W.

**WANTED:** Converter, cover 2 and 6 with or without power supply. Schnitzlering, 72 Canning St., Warwick, Qld.

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### CAR AERIALS FOR HAPPY HOLIDAY

"Walea" side mounting—	50/9
C-3 Telescopic 3-piece 9 ft. 60/3	
CX-3 Telescopic 3-piece 9 ft. 60/3	
CD-3 Telecop. 3-pce. De Luxe 70/-	
Top Cowl or Fender: CFX-3 (perfect for Hoco.)	30/6
Bumper Bar: B-3 Telescopic 3-pce. 8 ft. 6 in.	30/-
Windscreen: W-3 Telescopic 3-pce. De Luxe	35/-
A.W.A. Magnatenna	42/11
Q Plus Loop Stick	25/3
Aegis AF-1 Short Wave Noise Reducing Aerial complete with filters	£11/15/6
Porcelain Egg Insulators 60 ea.	

### T.V. AERIALS

Model 11	£6/1/0
"212"	£8/5/0
"215"	£9/10/0
"215"	£12/5/6
"213 super fan"	£9/10/0
"300 Rabbit Ears"	£4/15/0
"The Showman" De Luxe Model Antenna	£15/10/0 each
300 ohm Balanced Twin Feeder Line	1/- per yard
All types of T.V. Insulators in stock	
T.V. Lightning Arrestors 16/3 ea.	

### T.V. PARTS

E.H.T. Transformers 17 or 21 in.	£3/19/9 each
17 and 21 in. Linearity Coil with Ferrite Rod	£1/4/0
17 or 21 in. Line and E.H.T. Chassis Assy. complete	£23/17/9
Ferrocart T.V. Turret Tuner	£19/18/9
Q Plus MKI L.F. Strip (27p/24p Limiter)	£3/1

### ALUMINIUM CHASSIS BLANKS

8 x 3 x 2	5/0
8 x 4 x 2	9/1
8 x 5 x 2 1/2	12/3
10 x 6 x 2 1/2	14/8
12 x 8 x 2 1/2	17/0
13 x 7 x 2 1/2	17/6
13 x 10 x 2 1/2	21/9
16 x 8 x 3	27/-
17 x 10 x 3	30/-
17 x 12 x 3	32/7

### FILTER CHOKES

C8/1—14H/60 Ma.	22/9
C5/1—20H/80 Ma.	44/0
C1/2—20H/100 Ma.	59/6
C1/3—20H/125 Ma.	70/0
C1/1—20H/150 Ma.	92/10
C6/1—20H/200 Ma.	126/-

### ROLA FILTER CHOKES

12H/30 Ma., 570 ohm	14/3
14H/60 Ma., 550 ohm	16/3
Q Plus WFC1 10 Kc. Whistle Filter	11/9
Q Plus RFC2 4-pi R.F. Choke, 6 mH.	7/9
R.C.S. low tension R.F. Choke 6/6	

### MICROPHONES

Acos M.L.C.35 Crystal, hand.	55/-
Acos M.L.C.22 Xtal, ball	£9/18/6
Zephyr 3XA Crystal	65/6
Zephyr 4XA Crystal	£6/7/7
Zephyr 8XA Crystal	£7/14/3
Zephyr 1XA Mike Insert	45/9
Acos M.L.C.19 Mike Insert	55/6
Acos M.L.C.32 Mike Insert	55/6
Zephyr 6 ft. extension microphone	
401 pf. 10,000 pF.	£5/6/0
Zephyr adjust. handset, hand	£2/6
Zephyr 6 in. desk type minitr. stand	16/10
Zephyr 9 in. desk type	20/-
Zephyr oval 4 in. desk stand with press-to-talk switch	£5/9/9
Zephyr 30 ohm to grid 3-wal case line type mic. transfr.	£4/1/9
Zephyr 30 ohm to grid chassis-mounting type mic. transfr.	72/6
Zephyr cord type chromium plated fully shielded	22/-

### CAPACITORS

Ceramic Hi-K Disc (subminiature)	2.2 pF—400 pF	2/1 ea.
	2.2 pF—10,000 pF	2/5 ea.
U.C.C. Special "Dectroflash" 650 uF. 250v.w.		46/7
Variable Tuning Capacitors—		
A.W.A. Miniature (12-450 pF.)	2-gang, 20%.	3-gang, 37/6
A.W.A. Standard (11-430 pF.)	1-gang, 22%.	2-gang, 29/3
	3-gang, 39/-	
Robbin Midget type—		
1-gang	21/-	
2-gang plain	33/6	
2-gang with vernier	40/3	
3-gang plain	43/9	
3-gang with vernier	50/2	
Jabel T-plate	3/2	
Jabel compression trimmers	1/6	
Philips air trimmers (3-20 pF.)	4/6	
M.S.P. air trimmers (2-20 pF.)	4/6	

### WAVE CHANGE SWITCHES

JABEL ROTARY—		
1 x 12 x 1	14/4 each	
2 x 6 x 1	14/4 each	
4 x 3 x 1	14/4 each	
4 x 3 x 1	14/4 each	

### OAK ROTARY—

1 x 11 x 1	11/10 each
1 x 11 x 1	18/4 each
1 x 11 x 3	25/7 each
1 x 12 x 1	13/10 each
1 x 12 x 2	23/10 each
1 x 12 x 3	31/4 each
2 x 4 x 3	24/10 each
3 x 3 x 2	17/10 each
2 x 5 x 2	17/10 each
2 x 5 x 3	24/10 each
3 x 3 x 1	17/7 each
3 x 3 x 2	17/10 each
3 x 3 x 3	24/10 each
4 x 2 x 1	17/7 each
4 x 2 x 2	17/10 each
4 x 2 x 3	24/10 each
6 x 2 x 1	18/10 each
6 x 2 x 2	25/10 each
6 x 3 x 3	31/4 each

### PICK-UPS

Acos G.P.10 Std.	72/5
Acos H.G.P.40, 2 head	£9/15/0
Acos H.G.P.50, turn-over	90/6
Acos H.G.P.60 (ceramic)	£16/10/0
Ibbott Crystal, 2 heads	£14/10/0
Ronette Crystal, 12 or 16 inch arm	£7/10/0
Garrard, needle pres. gauge, 22/6	

### SOLDERING IRONS

Scopie 6-Second Solder. Iron, 50/-	
Transformer for same for 230v. operation	49/7
Bireo D.9 40w. 3/16 in. bit.	24/9
Bireo D.3 40w. 3/8 in. bit.	40/3
Bireo D.1 80w. 1/2 in. bit.	47/6
Ersin Multicore Solder, 40 tin 60 lead	12/0 1-lb. reel
Ersin Multicore Solder, 60 tin 40 lead	14/- 1-lb. reel
Coraline 20 oz. tin Soldering Paste	2/-

### DUON T.V. CAPACITORS—

500 pF. 15 kv.	34/6 ea.
0.01, 0.006 600v.	1/3 ea.
200 uF./350v.	24/3
100 uF./350v.	19/9

### DUON Paper Capacitors—

0.01, 0.006 600v.	1/2 ea.
0.01, 0.006 600v.	1/3 ea.
0.02, 0.006	1/3 ea.
0.03, 0.006	1/6 ea.
0.05, 0.006	1/2 ea.
0.05, 0.006	1/4 ea.
0.05, 0.006	1/7 ea.
0.1, 0.006	1/2 ea.
0.1, 0.006	1/9 ea.
0.1, 0.006	2/- ea.
0.25, 0.006	2/- ea.
0.35, 0.006	5/6 ea.
0.25, 0.006	2/11 ea.
0.5, 0.006	2/7 ea.
0.5, 0.006	4/11 ea.
0.5, 0.006	4/1 ea.

### RECORDING TAPE

B.A.S.F. 1200 ft. 7 in. Reels, 67/6	
B.A.S.F. 1200 ft. 6 in. Reels, 65/-	
B.A.S.F. 1700 ft. 7 in. Reels, 85/6	
Collaro Hi Fi 1200 ft. 7 in. Reels, 70/-	
Philips 1800 ft. 7 in. Reels, 85/-	
Scotch 300 ft. 5 in. Reels	28/-
Scotch 600 ft. 6 in. Reels	45/-
Scotch 1200 ft. Reels	45/-
Westinghouse 1200 ft. 7 in. Reels	62/-

### 15 OHM WOOFER-TWEETER COMBINATION

A.W.A. 20928 12 in. Woofer, £6/6/0	
A.W.A. 20786 6 in. Tweeter, £2/9/6	

### SOCKET PUNCHES

(Hammer or Screw Type)	
1-3/16 inch Std.	30/4 each
1 inch Curv. cetral	39/4 each
3/4 inch Inoval	40/3 each
5/8 inch button case	23/3 each
1/2 inch for pots, bezels, 23/3 each	
"Bib" Wire Strippers	6/9 each

### T.V. COMPONENTS

Q Plus VPC13-VPC500 video peacing coils	3/8 each
Q Plus VPC3 filament choke, 1/5	
Q Plus CS2 two-way Couplers, 17/5	
Q Plus Aerial Alternators 16 lb., 10 lb. or 5 lb. R.L.	£7/5 ea.
Q Plus Alignment Tools, AT1, AT2	3/4 each
AT3	5/- each
Steel Cadmium Plated T.V. Chassis, 19/6 each	
Q Plus 7 mm. Shielded Coil Formers	5/8 each
Ironcore T.V. Power Transformers for R. & H. 17 in. T.V.	£8/13/9
Ironcore T.V. Filter Choke, 1H/275 Ma.	£12/18/9
Q Plus Crystal Set complete with aerial, headphones, and instructions	99/6
Q Plus Crystal Set only	53/6

### ROLA LOUDSPEAKERS

3C	£1 12/0	6H	£2 10/0
4C	£1 11/6	8K	£2 12/6
4C	£1 1/6	8M, 8M-PA	
4-5C	£1 17/6	6	
4-5F	£2 5/0	12K	£3 6/0
5C	£1 13/6	12M	£4 1/0
5-7H	£2 8/0	12-O	£6 7/0
5F	£2 2/6	12-O De Luxe	
5FX	£2 5/6	£2 10/0	
5-7L	£2 3/6	12-OX	
6H	£2 5/0		£11 4/0
6M	£2 18/6	12UX Hi Fi, 15	
6-6H	£2 15/0	ohm V.C.	
6-6L	£3 9/6	£28 19/6	

### TRANSFORMERS—ROLA

Type B	£1 14/9
"D"	£1 10/9
"E"	£1 5/9
"F"	£1 1/0
"H"	£1 2/6
"K"	£1 6/9
"L"	£2 1/6

### Q Plus 5 in. Exten. Speaker, 69/6

"GIBBONS AND DENHAM" wooden leather, covered Speaker Boxes—	
For 6 inch Speaker	43/6
For 8 inch Speaker	56/6
For 12 inch Speaker	71/9

### RECORD PLAYERS AND RECORD CHANGERS

B.S.R. HFI 4-speed player	£13/5/0
B.S.R. 4-speed changer, £20/10/0	
Dual model "280" 4-speed record player	£18/10/0
Collaro 4-speed changer, £22/7/6	
B.S.R. 4-speed changer, £20/10/0	
Philips 3-speed changer, £15/18/0	
Dual 100 4/3 automatic changer,	£19/4 each
Dual 1003 automatic changer, 3-speed	£27/10/0
Philips AG201 "Disc Jockey" in portable case	£21

# TV for the Amateur

## AERIAL ARRAYS, INSULATORS, ACCESSORIES

### by "BELLING-LEE"

A complete range is provided for Amateur and TV Services of "Belling-Lee" Aerial Components and Accessories, only a few of which can be illustrated here. Owing to the ever-growing demand and increased Australian factory output it has been possible to make a number of reductions in prices.



Cat. LA5983/R Folded Vee Array for 1 in. Mast or /CW for 1 1/4 in. Mast.  
Retail Price: £4/11/9 ea.



Cat. LA5990 Mast Stand-Off Insulator.  
Retail Price: 2/3 ea.

Cat. LA5999 Double Vee Array for 1 in. and 1 1/4 in. Mast.  
Retail Price: £10/11/- ea.



Cat. LA5994 Tile Clip including Insulator.  
Retail Price: 4/3 ea.

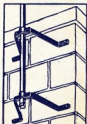


Cat. LA5993 Wall Nail including Insulator.  
Retail Price: 2/7 ea.

Cat. LA5971 Mast Strap.  
Retail Price: 1/2 ea.



Cat. LA5995 Gutter Stand-Off including two Insulators.  
Retail Price: 8/- ea.



Cat. LA5997 Wall Mounting Brackets for 1 1/4 in. Mast, or Cat. LA5981 for 1 1/4 in. Mast. Retail Price: £2/15/7 pair.



Illustration of Tile Clip and Insulator in position.



Cat. LA5992 Outdoor Wood Screw.  
Retail Price: 2/- ea.

Cat. LA5974 Chimney Lashing Kit 1 1/2 in. Mast. Retail Price £4/2/11; Cat. LA5982 for 1 1/4 in. Mast. Retail Price £3/18/5.



All above prices include Sales Tax where applicable. Insulators illustrated and listed above are for Flat Ribbon Feeder. If Insulators are required for Tubular Ribbon add word Tubular when ordering.

In addition to the above, prompt delivery can be given of 6 ft. and 9 ft. x 1 1/4 in. Masts, 8 ft., 9 ft., 16 ft. x 1 1/2 in. Masts, and complete Single Vee or Double-Vee Assemblies.

For ease and speed of installation, high quality performance and endurance to all weather conditions, "Belling-Lee" TV Aerials stand supreme. Order from your nearest Wholesaler or direct enquiries to:

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